Notebook, N-06-02-19

Feby 19 1906 JAE

New series of experiments with discs, provided with rings of Cobalt plate made by Copper Cobalt Electrolyte [illegible] dissolving out the Copper by KCy = result of long and exhaustive experiments. The Cobalt plate is appropriate in construction homogeneity of such kind as Cederfeldt from the compress = its very perfect as compared with the flake we have previously used

The sheets were cut in strips 40/100 mm wide + copper dissolved out by Cyanide after testing a general sample of strips to see that all Copper was removed. The strips were put into a crock w water having a little KCy left over from washing out the dissolving Cyanide. This keeps the flake from oxidizing. The revolving prongs in the crock agitated the water & separated the layers very well. The discs were then washed by 4 changes of water & then put in Ethyl Alcohol to remove the water & [illegible] not drain off. The stuff Cooled strips were then put in dry ether to wash w/ Cooled ether & then dried

John Gill not having furnished the little machine for chopping the strips up into flake of the size necessary I had to chop by hand from time to time searching out that which was of proper size.

Used a 15 knife Worcester. The flake is not nearly so crinkled up as the flake ~~xxx~~ scarcely any fines. On account of the strips being previously cut to size, as large part that went through the 15 knife is twice as long as wide, this is probably an advantage - considerable portion has a curl in knife grove but not many have edge turned over. The flake is practically no holes in the flake & is strong & good - as well as tough

A preliminary trial 21000 green 6000 Cabrach flake 0001 showed flake all right for burr R - also showed that it was rough but the 4500 groove cutter made the green stick - put dry so quick that at 6 o'clock up so

hand that working around Gas drawn with it, Could not even roll it out

The drying action to think is due to the great porosity of the green bricks, it sucks like a dry pipe - Can now Carting 21000 in water Skin & under Door off watering out & out & Wash & Comes it dry naturally

1 Sky 45°C Chamber 9 fires - Worked at it abt 8 Once hour on 405 PM - off 550 - Drying on glass plate Another batch finished work

2 hours Trip - Using 20 cake until I get the mix of green & Chamber for K — on 415 PM -

1st Batch weighs after drying 21620 - having gained 620 Mily as I left a little which dry gained 650 To 675 Mily — or say 3 per cent, -

2nd Batch off at 810 pm —
I find that wetting the mix & drying the green in air does the Chamber -

4500 glucose previously used with
undamped green got sticky & balled
but it balled so badly when I tried to get it
that I could not clean things with it.
The balls got hardly from the rapid
absorption of the water of the glucose
into the green — but with the same
amount of green which had
absorbed 30% of water. The 4500
glucose was more sticky & dough
balls up & made OK.
However we took seconds green
all night. The quantity of water
used for 4500 glucose or binder was
adequate & took the same.

The second batch of soaked green which
dried longer on the glass plate, dried so long
that when we weighed it it had lost all
the water that it had soaked up, we
thought perhaps we had lost some green
but below I tried the green 21000 with
4500 glucose balled up & mixed
mix & also notice that the green
was very much more brittle than
it was when it had soaked up

We shall have to either dry it
just enough to make a cloud film
that will be salvaged or we
must spray the wall on just
before each of grow on putting on
binders.

Find that by taking grow 10, grow growing
3 cc of ½ glucose ½ creatine at 105th grow 4
ok by making with grow then 21 and 45 cc
grow dried in each glass now but
stale. Then increase it with glucose
Req in proportion of 21 and 45 cc it will
not film now but is ok - pre film
4 cc of ½ creatine ½ cc of binder.

It our drier but when you put like
Visc. Req amount of glucose
it get no sticky properties must be
dried on heated cell of course.
dry =

Tried 21 0 0 grow 6 cc of ½ 4 ½ H2O 7 the
it moistened it but not very wet put it to dry
on warm glass on heater.

Note on effect of [illegible] on
tube with [illegible] - 50 hours temp.
3 hours 5" coil -

Cut the tube open on the middle
of [illegible] green [illegible]
There was a good net result, but the net
work is compared [illegible] from 3 to 4 hours
[illegible] coil, of course that green has 20
all times as [illegible] more
flake than [illegible], one [illegible]
probably [illegible] [illegible]
[illegible] [illegible] several
[illegible] yet there did not seem to
be much [illegible] - The bulk of
the flake to use a great deal [illegible]
its thickness probably [illegible] -
[illegible] [illegible] not [illegible]
So we took things also a Hardened
8:12 flake which [illegible]
Tube Charge 7:43 - [illegible]
Vacuum [illegible] - [illegible] green
was put [illegible] [illegible] that
7:43 [illegible] [illegible] flake time
20 minutes

Hooks as of less flake + particles of green bodies
dust-tinted + prevented from forming a regular
by the glucose -

350 -

21000 green [illegible] in
soaked in water 1 hour and 45 min
+ then air dried on glass plate
Weight 2165g having absorbed 30%
water - 9000 C.c. [illegible]
[illegible] by process, Hydrogen in
Hydrogen, Cut by Harris screened thro
15 mesh - The flake is cut arguably
40/1000 wide, by cutting with the rack
+ Screening a large proportion is twice
the width of going through the screen
End on - These long flakes may be
an advantage [illegible]
That flake thro 15 mesh could be used
in Regular Loading machine as
the filters makes it feed fairly well -
The tube, however was cut and strew
Hits groups - Tube C.C. [illegible]
1/4 of 1000 in a side, used [illegible]
strip welded in hydrogen before
[illegible] in tube charge -
Rings put on tube before loading -
See Note The green was not covered
by the flake, it was merely mixed with
[illegible] as it would cover at all the
flake being too stiff. Coarse to

	Weight	Cal.	Tamps
352	5.775	271	52
351	5.660	271	51
350	5.805	273	52

	1	2	3	4	5	6
350	522	726	763	807	807	812
351	545	735	757	802	800	803
352	553	736	760	805	800	806

Hot Endurance

	4	57	58	59	60	61		112	113	114
350	After	840	832	830	825	540	After	842	840	828
51	50	830	820	817	807	530	100	840	827	818
52	Hot	841	827	821	815	832	Hot	847	835	826

	115	116		167	168	169	170	171		222
350	835	841	After	835	821	832	835	827	After	852
51	827	825	150	835	822	815	820	816	200	845
52	832	837	Hot	850	837	831	831	825	Hot	846

	223	224	225	226		277	278				
350	837	850	836	827	After	822	820				
51	822	823	845	815	250	815	803				
52	830	830	823	822	Hot	825	822				

permit cooling = it loses its powers very well mixed and the ingredients so the green covered all over with the glistening surface of grain — it would not segregate at being too sticky - 50 Double Tamps 3.6 lbs 5" drop Ends put in tube, ends rounded in new machine, soak 48 hours Change water Every 10 hours or so, use 200 cc of water per tube with 1 cc of KOH, after soaking assemble in kettle with required charge and run + put in 21% KOH of Set of Standard 24 hours before going on Endurance pour this out + put in fresh 21% KOH Make 5 runs cold at required rate then put on hot endurance, change KOH before putting on hot test

Weight of active ingredients - 5.805

Tamps on — 52

Caliper — 273

Head fill well - bridgeport mouth of Tube

Burrs inside —

Run with Regular runs

Run cold 5 runs then put on hot endurance

Change KOH just before going on Each run of 50 Hot —

351 Duplicate of 350

Weight active material 5.660
Tamps 51
Caliper .271

352 Duplicate of 350

Weight active material 5.775
Tamper 52
Caliper 271-

Note on 353. This mix also bridges range. Is that previous kind of gum mix that remains of comp. + body in a plan not dry - probably on account of the invert sugar in the green starting to make glucose. Is also sticky as the longish string of the flake - & less porous green would probably make green paper kind of dry sticky - However its not certain that the enzyme work in binding machine as plunger each time worked for a right granularity in ~~g~~ & dont pack on the shelves —

353 not sticky mix

Memo notice Weight action makes all but group 353 + 358 - probable seasons is that mix of 356 who more sticky + lubricants although 356 runs more sticky of anything than 353 = There is something strange about it Can it be effect of the absorbed water, this runs, practically the same.

Weight action mat, 6.325

353 = Treacle green - Hz friable kind, 21000 - 6 hours under bell jar with sponge absorbed H_2O till it weighed 22000 (10) 45% water — 4500 glucose, 9000 new .0001 CoGalt flakes, Runs 20 mesh Noticed glucose mixed ok with green Epoxy - no balls but not very sticky. Dont cover but only mixes — granules of green not apparently aggregated but well distributed, let would be impossible to cover green with flake which is tough like this + dont work in — Can only mix at + glucose need to prevent aggregation which perhaps would still be necessary. Possibly 4000 glucose + invert to work — This is actually green to a burnt umber to an OK yellowish Can have a chamber with Indian Red, ochres + green sized + un pre sized batches, ready, to take test as 2 mixed are mixed, I dont notice Runs 20 is any harder than Runs 15 for take out photography help size of load as slurry not be long — Weight action material — 50 Basalt — Rungs Tolmps 48 Cal — 273 Burs made

CELL	WEIGHT	CAL	TAMPS
355	6.277	271	49
354	6.473	272	51
353	6.325	273	48

	1	2	3	4	5	6
353	633	825	865	902	900	908
354	600	815	873	913	905	911
355	627	813	845	875	878	880

Hot Endurance

		57	58	59	60	61		112	113	114	115
353	AFTER	946	926	930	900	927	AFTER	956	940	930	932
54	50	943	935	937	917	945	100	972	958	950	955
55	HOT	918	905	907	857	910	HOT	932	930	922	926

		116		167	168	169	170	171		222	223	224
353	943	AFTER	952	942	935	941	930	AFTER	955	937	940
54	965	150	970	963	957	965	955	200	950	947	945
55	935	HOT	932	920	913	930	912	HOT	927	917	913

	225	226		277	278	279	280	281
353	936	932	AFTER	945	927			
54	948	942	250	927	922			
55	917	915	HOT	930	910			

354 Dup of 353

Weight gram — 6.473
Tamps Enable 51
Caliper 272

355 Dup of 353—

Weight am 6,277
Tampa Double #9
Caliper 1-71

Note — Initial loss remount

358	5.824	271	47
357	5.786	271	47
356	5.944	272	48

	1	2	3	4	5	6						
356	672	870	897	910	902	912						
357	617	916	840	870	859	860						
358	642	837	850	888	852	885						

Hot Endurance

		57	58	59	60	61		112	113	114	115	
356	AFTER	918	907	908	890	912	AFTER	888	885	875	875	
57	50	892	875	877	850	880	100	877	870	S.C.	S.C.	
58	HOT	912	891	892	870	892	HOT	895	896	883	885	

		116		167	168	169	170	171		222	223	224	
356	886	AFTER	833	866	862	882	870	AFTER	880	900	896	
57	875	150	891	877	867	872	867	200	895	870	875	
58	892	HOT	890	877	862	871	862	HOT	882	862	857	

	225	226		277	278							
356	892	895	AFTER	925	897							
57	866	868	250	886	867							
58	865	857	HOT	860	850							

356= 21000 grain absorbed H_2O to 21950.
Thio 20 all Finesin granule $Ni(OH)_2$ —
9000 Ec Calf. .0001 new Cuckay process Thio 20
Screens 350 — The mix seems very sticky-ch. good & well distributed & thinks it will bridge-bad in loading — Used Nickel plated tubes 1/4 thou thick inside — ring on tube before packing — Double Tramp — From the way this mix worked think 4000 glucose will do — Used 4500 Glucose screens 350 — Burrs inside, Nickel plating by Cuckay — good — 3 lb weight 5" Drop in loading — To 68 run with regular old limits

Weight active material 5.944
Temps Loading 48
Caliper 223 Unpacked Cake 350 — to 68
tested Like 356 group

357 Disp. of 356

Weightractions III 5.786
Doulet T 47
Cal 271

358 Dup of 356

Wt active material 5.824
Double T- 47
Cal. 2??

361	5.831	272	50
360	5.555	271	50
359	5.394	272	50

	1	2	3	4	5	6				
359	665	812	807	843	840	250				
360	707	865	857	886	890	900				
361	646	880	885	921	919	923				

Hot Endurance

		57	58	59	60	61		112	113	114
359	After	862	845	842	830	550	After	841	841	842
60	50	896	877	882	871	690	100	887	890	877
61	Hot	928	910	911	893	917	Hot	917	907	900

	115	116		167	168	169	170	171		223
359	837	840	After	838	832	820	832	815	After	840
60	891	857	150	890	882	882	882	877	200	890
61	900	908	Hot	922	913	906	906	895	Hot	920

	223	224	225	226		227	228	229	230	231
359	820	815	810	812	After	810	800			
60	867	862	858	860	250	860	846			
61	900	900	895	895	Hot	905	891			

359 = · 21000 green thio 30 all fines in — absorbed H_2O + (weighed) 21743 —
9000 flake Co same as 351 —
4500 Cyanamid "
Burrs on side — rings on before bending —
Nickel particles tubes same as 356 —
3lb drop 5" To 68 rem, soaked 4 feet all 350

Weight active Material 5.394.
Double T 50
Cal 272

Why about same on green thio 20, sticky —

Loaded two plaques by [illegible]

Notice [illegible] are [illegible] 361 loaded on C.D. machine — There seems something wrong with it —

360 Emp 359

Weight 5,555
Taxes 50
Cash 271

360 loaded on unemployment by
Crosby

361 Dup 359

LOt 5, 831
T 50
Cal 272

361 - Loaded in old pkg machine

364
363
362

362 = Duplicate of 359 in everything except 21000 green Ibis 40 fumes all in 21000 absorbed water + cuttings.

Wt
Double T
Cal

Not made

363 Dup 362

Lot
Seattle "T"
Civil

not mailed

364 Supp 362

US v
Dowling
Case

not available

Note 350 groups to only run having
Flake thru 15 mesh
Latter groups to have thru 20 mesh

367	5880	271	50
366	5.925	271	49
365	6.085	272	54

	1	2	3	4	5	6			
365	677	900	910	953	950	950			
366	650	871	893	921	930	931			
367	767	921	916	947	942	943			

Hot Endurance

		57	58	59	60	61		112	113	114
365	AFTER	950	935	940	917	945	AFTER	948	937	932
66	50	938	917	921	907	915	100	915	907	905
67	HOT	910	895	900	895	917	HOT	900	897	877

	115	116	1	167	168	169	170	171		222
365	935	940	AFTER	902	905	900	900	890	AFTER	892
66	907	915	150	882	880	868	886	865	200	872
67	892	900	HOT	857	861	855	866	850	HOT	847

365 21000 thru 40 all fineness
21000 measured weight to 21690-
Cobalt platinol tube - rings on before
filling - in every other respects except
to mesh of grit same as 350 + to 62
run the same - flake thru 20 mesh,
9000 Co flake 4580 gluconi —
4500 gluconi

Wt 6.085
Den 8.60 T 54
Cut 272

Mix ok 6 cut drapes (remained 8 of them
green thru 20 - 6 cut it round 62 produced
Notice green in many cases to
agglomerates - so at may not be any
better than thru 20

	222	224	225	226		227	228
365	882	890	885	884	AFTER	862	857
66	853	851	850	847	250	840	826
67	835	835	832	832	HOT	822	823

366 Dup 365

Lot 5,925
Dwlg Ca T4:1
Coal 7:1

367 Dup of 365

LUT 5x10
Spike Tape
Cal-71

370	5.785	271	48
369	5.651	272	47
370	5.785	271	47

	1	2	3	4	5	6
368	688	816	860	890	891	898
369	581	778	785	831	820	824
370	631	840	850	891	885	897

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
368	After	900	873	875	837	805	After	860	850	850	850	855
69	50	870	845	842	815	835	100	870	842	832	837	842
70	Hot	903	877	857	858	885	Hot	881	872	866	872	877

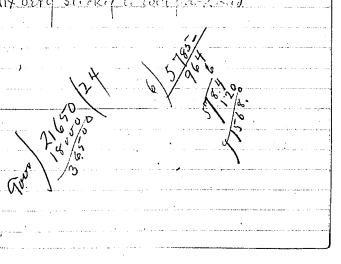
		167	168	169	170	171		222	223	224	225	226
368	After	813	820	817	818	807	After	820	807	805	800	800
69	150	832	827	817	821	812	200	835	813	815	812	815
70	Hot	865	857	850	853	848	Hot	867	845	850	841	837

		277	278	279	280	281
368	After	775	777			
69	250	845	886			
70	Hot	842	825			

Assemble with Copper Mercury Prods

368 = 21000 grain Nuts 20 fuses all in -
21000 assembled Tubes ~~all in~~ to 21650 -
9000 (Cake Co. Same as 368 -
4500 of them " Burn in only
Double Temper - Nickel plated Tubes -
Rings on bases pkg -
Tubes plated 4 1000 in side -
All soaked ~~in~~ Co 350 -
But they use to be ~~in~~ soaked 4 -
run with new process Copper Mercury
Irons = all in one run like 350

Wt 5.785 -
Dark Cut 47 Complete -
Col 271
Mixture sticky (Still good)



369 Sup 368

Lot 5.651
Dunbar 47
Cal 2d 2

370 Rep 368

Lot 5,825
Double T 46
Cal 371

372	5.824	272	49	
372	5.740	272	48	
371	5.766	271	48	

371 – Exp. of 368 except the last four tubes – 21000 observed cycles to 21670 – Ring was broken on examination

	1	2	3	4	5	6
371	647	837	839	871	867	875
372	637	800	850	865	858	850
373	612	816	837	865	855	862

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
371	After	870	850	850	835	855	After	865	850	850	847	865
72	50	872	850	853	823	854	100	848	850	843	847	850
73	Hot	823	796	795	840	867	Hot	870	787	846	858	857

After 200 Hot

		167	168	169	170	171	172	173	174	175	176	177
371	After	850	813	833	842	827	832	825	830	826	830	
72	150	855	838	827	845	824	210	840	828	827	821	
73	Hot	850	840	827	845	834	791	827	830	827	815	

		177	178
371	After	830	811
72	250	815	800
73	Hot	787	787

Lot 5.766
Limit T 48
Cat 271

Mix very sticky, similar to all the previous. Except 253 which was not very sticky

372 · Dup of 371

Of 5.740
Louscot 48
Cal 372

373 F. Supp. 371

Ut. 5.884
Foulet T 461
Cl. C. - 272

376	5.849	272	49.
375	5.893	273	50
374	5.850	272	49

	1	2	3	4	5	6
374	572	788	821	860	851	855
375	618	800	828	858	853	866
376	692	867	877	900	894	902

Hot Endurance

	57	58	59	60	61		112	113	114	115	116
374	After	873	857	855	837	840	870	857	856	860	847
75	50	893	875	877	855	877	885	881	868	875	876
76	Hot	906	880	880	857	855	847	897	883	885	887

	167	168	169	170	171		222	223	224	225	226
374	856	852	850	850	847		862	845	846	843	840
75	876	871	850	880	850		882	860	865	857	853
76	891	887	870	875	870		887	869	875	862	862

	277	278
374	837	827
75	840	835
76	855	845

374 - 21000 absorbed to 21620 - Three 20/ Cobalt plated beebees - Temps put on After pkg — Everything else same as 350 Except Coked three 20 — Warmed in soakit Heated like 350 —

o 4500 glucose,

Lot 5 850
Double T 49
C 272

Mix same sticky + really coarse as previous Except 353 —

375 Dup 374

Lot 5843
ET 50
C 273

376 Dup 374

Lot 5849
Dun & Co T 49-
Ca C. 272

379	5.1415	273	48	
378	5.1442	273	48	
377	5.1979	273	50	

	1	2	3	4	5	6
377	622	847	880	926	912	905
378	656	866	880	916	900	915
379	681	887	898	935	927	935

Hot Endurance

		57	58	59	60	61						
377	After	945	910	917	900	910	926	918	907	910	913	
78	50	915	927	900	875	925	900	898	888	877	894	
79	Hot	935	900	915	896	917	917	907	898	900	907	

		167	165	169	170	171						
377		930	921	913	915	913	927	917	911	907	910	
78		900	897	888	888	888	917	895	895	882	894	
79		921	907	896	900	892	920	897	897	888	894	

		177	178									
377		926	904									
78		910	892									
79		907	888									

377 = 21000 absorbed to 21665
thro 20 fuse wire -
Nickel tube - rings to 6s put on after pkg - good Cobalt epoxy glue on
Everything else to take 350 except [illegible]
thro' 20.
Run to James 350

10 of 5.1979
Double T 50
C 273
Mix same quickly as previous groups

378 Eup 377

Lof 5.8.12
Range T 48
C 273

379 sup 377

Ust 5.415 s
Rawlet 48
Civ 273

382	6.181	245	49	
381	6.241	245	48	
380	6.217	245	49	

380 – 21000 chamber to 21765. Increased Supply 350 except Cobalt Nitrate 20 – 4500 Co – 4750 Chromium – Exhaust Gas Cooled Tube Corrugations on one side 1.50 rel wrapping rings on both ends Work Sample = 381 –

Qt 6 217
Lambda T 49-
Cal Cal 245 2 Rings broken in press
Just same as normal – No quality

	1	2	3	4	5	6	
380	517	725	792	837	837	850	
381	567	797	850	892	890	900	
382	520	750	818	863	865	887	

Hot Endurance

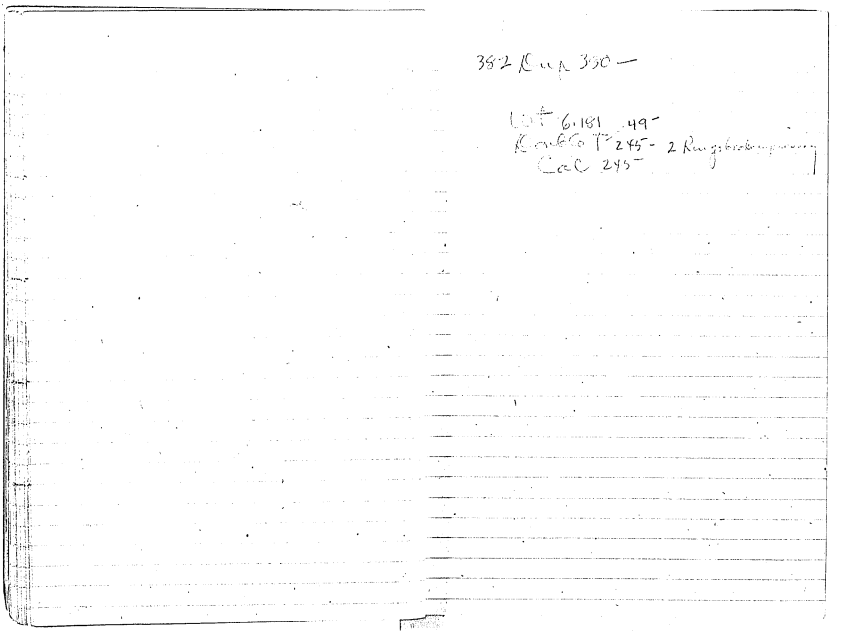
		57	58	59	60	61		112	113	114	115	116
380	After	875	875	888	867	886		900	902	892	900	907
81	50	893	892	900	875	900		872	S.C.	825	830	822
82	Hot	898	896	900	877	900		897	895	880	881	882

	167	168	169	170	171		225				
380	967	717	712	697	687						
81	525	512	575	527	535	C.O.	5-14-06				
82	622	625	635	627	626						

380												
81												
82												

351-Cup 360

UCT 6.1.1.1
Rubber T 45
Cork 245 - 2 days at 70°C in pressure


38-2 K u N 350 —
LOT 6.181 .49-
K ombCo T 245- 2 Rangebreakspacing
CaC 245-

385	5.857	271	48
384	5.920	271	48
383	5.840	272	48

	1	2	3	4	5	6
383	507	875	954	592	870	893
384	587	790	830	967	842	877
385	577	800	247	882	882	823

Hot Endurance

		57	58	59	60	61		113	113	114	115	116	
383	After	907	882	885	867	895		897	892	881	883	889	
84	50	900	885	890	867	896		893	895	880	885	888	
85	Hot	900	886	900	868	896		912	900	882	893	900	

		167	168	169	170	171		322	323	324	325	326
383		900	877	881	867	882		900	872	881	867	876
84		900	888	883	869	885		900	882	887	877	876
85		908	900	890	897	894		912	895	895	858	888

	277	278
383	877	865
84	892	881
85	900	883

383 21000 - absorbed to 21 615 —
Then 20 [illegible] all in —
9000 lbs of Cake in 9 hrs Then 20 —
3500 of Glucose —
tube broke & came off 350 —
Cobalt pt. of tube rings on before
pickle —

Lift 5.840
Density 48
Cal 272

Mix stickys good, same as
the others except think of 383
were sticky notwithstanding
has only 3.500 glucose —

384 Sup. ct. 383

US 51,920

Rec'd 1-48

Cal 271

385 Dup of 383

W.f. 51857
Pacific T 48-
CoC-271

From 350 to 386 grimp berry always made when ferm. Gens twice between on all tubes. —

388	5.900	272	48
387	5.960	271	54
386	5970	272	51

	1	2	3	4	5	6
386	630	826	892	911	905	916
387	615	828	882	918	925	932
388	787	900	932	962	950	955

Watt Endurance

		57	58	59	60	61		112	113	114	115	116
386	After	908	898	905	250	710	After	662	662	667	700	685
87	50	900	907	912	895	925	1100	937	935	926	936	942
88	Hot	955	942	953	920	950	Hot	960	945	925	938	948

		167	168	169	170	171		222	223	224	225	226
387	After	942	944	935	946	932	After	923	905	910	901	897
88	150	565	950	945	955	937	200	932	880	932	912	917
	Hot						Hot					

		117	118	119	120		172	173	174	175		226
386	710	912	927	915	After 150	927	924	927	920	920	After 200	925
					Hot						Hot	

386 — 21000 [illegible] 1820 to 21700
Have 20 [illegible] —
Cobalt [illegible] 9000 — Have 20 —
Only 2500 glucose —
Manganese [illegible] 850 —
Cobalt prior tube [illegible]

Watt 5970

Endurance 51

Cal 272

Watt worked too dry but was covered heavy by glucose — at [illegible] 3500 to [illegible] on grid in 45 sec with green glow 20 [illegible]

		277	278	279	280	281
387	After 250	885	870			
388	Hot	905	905			

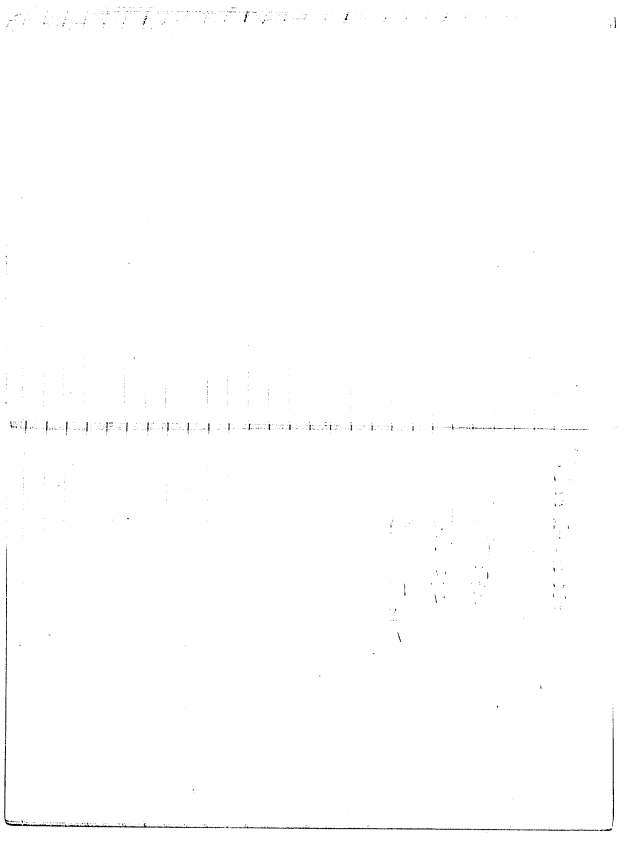
	227	228	229	230
912				

387 Rup 386–

Lot 5960

Coll 271

Dan Jamp 54



391	5.828	272.50
390	5.814	272.47
389	5.817	271.50

	1	2	3	4	5	6						
389	670	843	875	841	858	882						
390	600	716	150	182	750	765						
391	645	825	882	830	848	850						

Hot Endurance

		57	58	59	60	61		112	113	114	115
389	After	920	920	900	900	902		917	891	900	890
90	50	897	895	892	880	882		900	873	882	878
91	Hot	902	900	89~	890	888		906	878	888	888

	116		167	168	169	170	171		222	223	224
389	88			912	905	912	897	891	858	851	851
90	875			892	892	892	882	876	868	840	840
91	878			900	897	902	892	888	868	868	858

	225	226
389	870	868
90	846	850
91	858	858

389- 21000. [illegible] 21720
Have 20 fuses all in —
Cobalt [illegible] 5 cartridges
one weld, 9 feet rings on [illegible]
filling [illegible]
good Coffee [illegible] 20
400 - [illegible]
Manufacturer no Bulk 350 —
Car 150 atmos —

Wt 5.817

Car ~71

Dowel T 50

Mix not so sticky [illegible]

390 Dup 24

Wt 5.814

C.C 272

Rabbit 48

This tube was one of four that were not numbered but could recognize it from others as the rings were loose. This one did not have the 24 hrs KOH soaks and changed, but simply soaked up stairs 24 hrs and run in the same KOH.

391 Rup 35T

Lot 5,828
Cal 272
Dup 50

394	5.854	.250	48
393	5.915	.245	49
392	5.943	.242	47

	1	2	3	4	5	6
392	500	832	877	900	900	917
393	505	830	842	866	856	870
394	517	735	792	837	837	845

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
392	Aniser	938	987	918	895	920		930	920	908	911	918
93	50	858	867	815	850	875		882	875	865	867	882
94	Hot	900	892	880	850	876		888	875	865	867	880

		167	168	169	170	171		222	223	224	225	226
392		925	915	895	911	898		940	910	910	902	891
93		883	858	850	867	860		881	865	862	857	850
94		867	848	830	848	830		845	835	834	815	800

	277	278	279	280	281						
392	872	862									
93	844	821									
94	671	681									

392 21000 absorbed H2O 21855

9000 Kg Cook plate Thru 20

4000 Sweat

Nickel plated brass Cans on after pkg – Corrugated one inch – before 15d Absorption – Empty after 365 –

Wt 5.943

Cal 248 –

Dent GT 48

Mix same as usual – perhaps a little more sticky on next larger absorption H2O than usual –

393 Dup 392

Lot 5753
Cal 245
J Dowell #9

394 Dup 392

WT 51.854
Cal 250
Double T. 48

All tubes air gas

Double-flange all Chevrolet

same speed wheels all round

stock

397	6.100	246	49
396	6.255	244	50
395	6.283	246	49

	1	2	3	4	5	6
395	422	700	745	902	875	896
396	462	730	812	898	887	893
397	465	742	827	883	887	894

Hot Endurance

	57	58	59	60	61	112	113	114	115	116
395	After	932	925	943	906	940	420	600	650	700	770
96	50	930	915	942	900	942	940	936	922	928	940
97	Hot	931	915	915	896	922	912	917	909	913	920

	167	168	169	170	171	222	223	224	225	226
395		931	927	918	932	927	955	932	932	915	918
96		947	935	927	940	925	945	932	932	917	927
97		928	915	910	912	912	940	922	922	918	917

395. Dup of 392 –

Nickel tube – Except rings put on

After – packing & Corrugated one

side 150 atmosphere

21000 given absorbed to 21900 –

4000 glucose

9000 Carbaffluke 2cg

Wt 6.283

CaC 246

T 49

after Corrug'd – rings put on

	277	278	279	280	281
395	906	867			
96	875	850			
97	857	827			

396 - Dup 395

Lot 62.55'
Cal 244
T ~~234~~ 50

397 Cup 395

COT 6.100

CnC 243

T 49

400	5.44	244	49
399	5.710	246	48
398	5.814	248	48

	1	2	3	4	5	6
398	513	741	781	827	830	842
399	480	722	784	825	835	870
400	527	722	789	812	830	810

Hot Endurance

		57	58	59	60	61		113	113	114	115	116
398	AFTER	876	850	876	863	857		893	870	870	877	885
99	50	850	837	872	857	855		891	846	835	840	846
400	Hot	858	837	867	857	855		861	858	837	832	852

		167	168	169	170	171		222	223	224	225	226
398		875	887	853	846	857		797	775	762	770	750
99		770	772	767	770	755		650	667	695	670	642
400		747	753	743	745	745		677	680	690	690	685

		277	278									
398		625	663									
99		571	660									
400		556	595									

398 – 21000 absolute No To 21670

Cobalt plated tube rings on after packing – Corrugated 150 set before rings Pattern 9000 Cobalt Cooke 4000 Chrome

Wt 5.814

Cal 248

T 48

399 Sup 397

Wf 5710

CaC 246

T·43

400- Dup 398

Lot 5,666

Roll 249

J 49-

403	5592	271	50
402	5,646	271	48
401	5,559	272	49

	1	2	3	4	5	6
401	665	813	820	857	860	850
402	662	805	818	853	864	857
403	607	781	792	827	850	840

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
401	After	877	847	870	877	893	838	895	912	958	985
02	50	882	855	873	883	870	882	895	913	958	992
03	Hot	850	842	862	863	858	882	897	913	958	992

	167	168	169	170	171	222	223	224	225	226
401	698	782	843	858	858	872	858	858	843	841
02	688	772	832	847	868	882	877	872	832	845
03	682	781	828	847	862	880	870	866	857	851

	277	278
401	855	842
02	850	843
03	826	818

401 – Grezwitus 20 fuses ~~[illegible]~~
8000 watered glass Cobalt
21000 absorbed to 21639 –
Now change to 8000 Cobalt
4000 glucose,
all tests on terminal block
Cobalt placed tubes – Rung on
before probing –

W.T. 5588

J 49

C 272

402 Dup of 401

Wt 5648
Cal 371
T 48

403 Dup of 401

WF 5593
CaC 271
T 50

406	6.320	277	47				
405	6.315	272	45				
404	6.365	279	49				

	1	2	3	4	5	6
404	707	897	937	963	975	962
405	646	871	920	905	906	900
406	690	865	908	932	947	932

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
404	AFTER	922	952	917	885	981	1000	992	977	977	898
05	50	912	897	927	918	915	947	935	918	922	940
06	HOT	895	900	930	920	925	945	930	918	920	940

		167	168	169	170	171	222	223	224	225	226
404		1015	1005	990	992	967	992	992	992	980	976
405		922	915	912	910	915	SC	SC	877	917	937
06		927	925	916	925	915	907	900	900	900	890

	277	278
404	995	978
05	922	920
06	857	880

404 — Lap of 401

Except 7000 Add'l Latex 30

21000 compl Lex 20 - Add'l to 21900 green Lex 20 fin cc ~ 4000 g fin

Lot 6.365

Cat 279

T 49

Mix slightly less sticky than control, probably similar Extra additional of latex

405 Dup 404

Lot 61315
Cal 273
T 48

406-Dup of 404—

UNF 6.230
CaC 277
T 49

407	6.137	272	49
408	6.265	277	51
407	6.290	273	48

	1	2	3	4	5	6
407	675	912	966	1000	1007	1000
408	547	745	900	850	863	843
409	630	927	867	902	910	895

Hot Endurance

		57	58	59	60	61						
407	Attik	977	965	1000	991	987	992	982	970	971	992	
08	50	850	842	877	870	826	895	893	880	875	906	
09	Hot	860	870	905	898	878	897	888	873	875	894	

407		960	982	966	965	955	972	965	977	950	943	
08		892	900	892	900	880	900	900	885	890	886	
09		867	880	898	888	887	877	880	880	870	866	

		277	278									
407		890	903									
08		882	870									
09		837	837									

407 = Empty Bot

Except 6.000 Cabbage like how 20 4000 glucose

Glucose inserts to 22140

grow how 20 fewer act in

Cot. 6290

CaC 273

T 48

Why should less than normal grow shown up consistently but think there will be no segregation

408 Sup 407

Wf 6.265
CaC 272
T 51

409 Dup 407

Lot 6.137
Cal 272.
T 49

412	5.754	272	49
411	5.590	272	50
410	5.701	273	47

	1	2	3	4	5	6
410	730	866	956	902	917	906
411	730	860	950	900	897	893
412	752	891	925	927	925	922

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
410	After	935	908	963	912	915		917	905	888	892	904
11	50	900	916	918	911	907		907	887	875	872	884
12	Hot	950	917	945	945	914		946	931	915	910	927

	167	168	169	170	171		222	223	224	225	226
410	905	898	893	900	890		900	885	883	876	875
11	850	861	850	850	845		850	842	841	837	817
12	906	912	893	892	887		892	888	882	870	868

	277	278
410	845	850
11	755	755
12	818	828

410 Dup of 401

Except 5000 Cabot Furnace Mine 20 4000 Glucose — 21000 absorbed H_2O To 21631 grain Mine 20 from 401 in

Lot 5.701

Cal 273

T 49

Abt 700 Watts absorbed for 21000 Workers the most of the day mix — no water increase to the reaction with Mine

411 Dup of 410

Ut 5590
Ca 272
T 50

412 Rep 410

Wf 5754
CaC 272
T 49

415 Sample 4

414	5.645	273	50
412	5.645	273	50

	1	2	3	4	5	6
413	697	825	824	862	863	856
414	727	878	886	925	940	934
415	772	912	907	950	962	957

Hot Endurance

		57	58	59	60	61						
413	After	903	887	910	895	892		875	872	883	851	865
14	50	905	885	921	921	915		877	890	877	845	883
15	Hot	918	917	957	921	917		927	908	900	902	923

	161	165	169	170	171						
413	850	832	828	825	825		680	727	740	727	712
14	787	812	811	812	807		670	737	760	757	750
15	845	865	855	858	846		840	845	850	848	840

	277	278
413	672	700
14	650	717
15	747	755

413 Same as 401

Except 4000 Cobalt glass tubes as 400 above

21000 rotations H_2O to 21700 gms then 20 times as in

Col 5.645

Col 273

T 50

Usual slickey mix -

Think there will be no precipitation green tubes in Environment

414 Rup 413

Lot 5165
Cal. 273
T 50

415 Dup 413

LiH
CaC
T

416	5.730	274	42	
417	5.714	272	47	
416	5.925	274	47	

	1	2	3	4	5	6
416	741	898	900	932	936	927
417	670	865	902	913	912	902
418	695	878	900	940	941	932

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
416	After	757	917	950	941	940	906	910	895	900	912
17	50	840	888	917	920	917	600	SR	370	590	898
18	Hot	918	880	915	915	907	872	812	815	872	818

		167	168	169	170	171	222	223	224	225	226
416		737	775	786	786	770	675	725	750	743	747
		133	118	119	128	121	133	132	134	135	
17		670	842	837	817	707	750	770	770	771	
18		676	712	736	733	720	627	680	707	705	

		277	278								
416		615	682								
		224	227	228	228	220					
17		711	747								
18		712	637	687							

416 - Sample a, 4.01

Except 3000 Cubic feet flow 20 - 4000 pressure -
21000, absorbed Hg(0) to 21650.
4 pressure 20 pressure

Lot 5.925

Cal 274

T 47

Optimum mix as used previously
to well cast degassing & shrinkage

417 Dup 416

UNF 5.761
QnC 273
T 47

48 Sup 416 -

Wt 51730
Cal 274
T 48

421	6000	272	50
47	6.132	273	49
419	6.036	272	48

	1	2	3	4	5	6
419	626	937	967	1010	1010	993
420	57	700	910	994	1002	997
421	593	887	924	964	970	950

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
419	AFTER	705	735	762	775	780		630	687	677	645	697
20	50	750	775	817	830	835		655	85.	600	657	663
21	Hot	946	542	838	881	872		680	750	727	740	751

	167	168	169	170	171	..	222	223	224	225	226
419		445	545	595	612	602		450	550	590	595	592
20		397	535	570	587	577		427	492	527	527	530
21		485	592	622	637	625		462	500	587	595	590

	277	278
419	595	570
20	545	546
21	457	548

419 Dawn 4-21

Except. 2000 Cobalt flake Titan
4000 Chrome
21000 absorbed H_2O to 21615 -
given three 20 [illegible]

C&T 6.036

Cal 272

T 48

This mix was not sticky probably because weighed wrong & too much absorbed water. This mix will probably not segregate but 2000 is entirely enough paint. 9 trunk — only 1 elk + 3rd of the battle showing enormous bulk of 9000 Cobalt.

420 Sup 449

Lot 6, 132
Cal 273
T 49

421 Dup 4:19

Uct 6.000

Cal 272 -

T 50

421	6.163	274	50
422	6027	273	50
422	5.880	272	47

	1	2	3	4	5	6
422	565	736	785	745	763	767
423	607	750	793	757	762	772
424	590	761	820	766	760	753

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
422	After	552	677	677	663	655		890	875	883	874	875
23	50	695	797	693	672	655		912	895	903	892	900
24	Hot	912	920	910	907	900		737	910	918	915	918

		165	167	169	170	171		222	223	224	225	226
422		565	656	663	647	637		710	710	705	702	696
23		925	912	925	915	907		795	780	775	775	775
24		887	883	890	888	865		746	737	728	726	721

	227	228										
422												
23												
24												

422 – 21000 absorbed to 21745 =
Run 20 from acc in
Cobalt plated tube,
9000 Cobalt of Cake Run 20 –
4000 Zirconia –
(packed without rings) –
After soaking & drying, ether
and to be Centrifugated 150 atmos
& Range put on after drying run like 350 –

Wt 51560

Cal 273

T 47

423 Dup 422

Lbf 6.09
Cal 273
T 50

424 Sup 423

Cof. 6.163
Cal 174
T 50

427	5.6877	272	48
426	5.932	272	49
425	5.705	272	49

	1	2	3	4	5	6
425	552	720	787	780	791	815
426	500	712	799	800	828	841
427	594	767	817	797	823	850

Hot Endurance

		57	58	59	60	61		112	113	114	115	116
425	AFTER	890	887	875	897	895		880	882	890	888	888
26	50	906	905	900	896	887		930	904	906	900	902
27	Hot	916	912	903	905	905		925	904	906	900	900

		167	168	169	170	171		222	223	224	225	226
425		890	892	884	893	882		896	874	868	867	877
26		915	917	917	915	905		910	883	877	883	893
27		910	915	917	910	904		908	883	882	875	893

425 - Dup of 423 -

Except Nickel Plated Tube used

21000 n Exhibit No. 21635

grew thru 20 furnace cc in ring put in roller

Lot 5.705 soaking charging - Computing

Cal 272

T 49

426 & up 425

Lot 5,932
CaC 272
T 49

427 Dup 425

Lot 5,877
Cal 272
T 48

428	5.507	271	49
429	5.457	272	49
430	5.450	273	49

	1	2	3	4	5	6	
428	686	812	800	831	850	837	
429	697	826	826	857	867	850	
430	686	815	812	847	850	837	

Heat Endurance

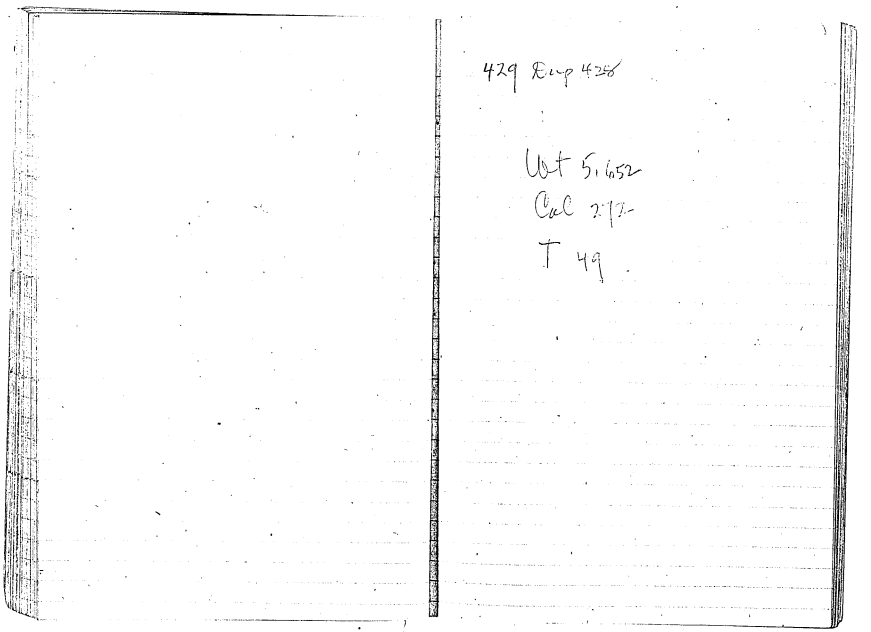
		57	58	59	60	61		112	113	114	115	116
428	After	847	817	837	832	841		S.C.	825	800	818	838
29	50	847	845	850	837	865		837	857	847	858	868
30	Hrs	850	825	847	845	847		855	840	830	832	850

		167	168	169	170	171		232	233	234	235	237
428		822	815	804	800	800		840	825	822	817	818
29		858	858	837	839	837		864	847	842	842	841
30		850	847	836	825	830		863	845	837	830	831

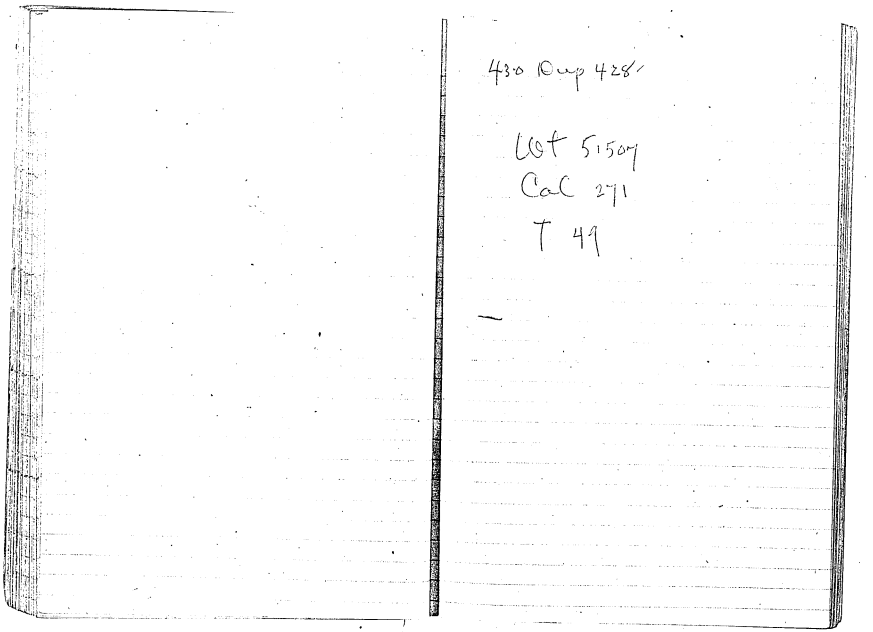
	277	278
428	826	807
29	847	828
30	848	823

428 · 21000 absorbed to 21602 — Hourglass
9000 Cataflake Mix 20
4000 Guanie - Cobalt plated Tubes
Mix to 6% dried before packing —
Rings on 6% before packing - C

Lot 5.450
Cal 273
T 49


429 Rep 428

Ut 5,652
Cal 277
T 49


430 Dup 428
Lot 5150
CaC 271
T 49

From 350 to 431 - Every group has
1 each new CuCa Coke Cubes
Kly - Run thru Hydrometer
Take thru 20 mesh Except 350
which is through 15 mesh
All have dead to Tamp
All have green thru 20 gave ~~CC~~ cu
Except ~~to~~ those after Library Coke
Checkers. ~~CC~~ each had counter
observed to record specific gravity
of Cubes - Which is recorded
in permanent. The Specific
Weight should be 80 to 85 lbs
Crushed for make minimum size -
All had same Crushing
which is considered basic all given
Equal amount as basic Crushing
Cubes - With 1/2 of 2% KOH
with 200 cc to Tube only Laboratory
Use soaking Varishine Lubricant yellow
~~in~~ not weighing Kly due to addition
of KOH on Cubes
All mixed green there is no
Cooling the green is broken up
with aggregate set coarse de Scribed
Throughout Use of Coke -

431 - Dup of 428 Make
Except Make placed Cubes
9000 Co Coke
4000 gCubes
Mixed dried 6 days pkg -
Rings on before pkg -
21000 green covered H_2O To 21650

Wt 5.160

Cal 272.

T 48

432	5.240	272	49
432	5.229	272	49
431	5.160	272	49

	1	2	3	4	5	6
431	710	772	765	720	744	774
432	713	790	787	760	785	812
433	792	842	830	777	797	827

Hot Endurance

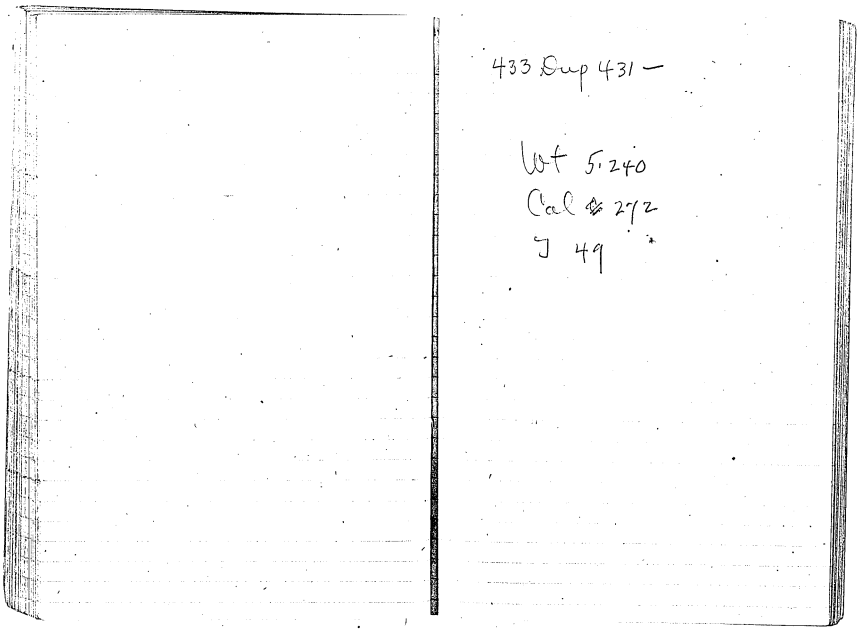
		57	58	59	60	61	112	113	114	115	116
431	After	800	805	800	800	801	841	795	800	795	765
32	50	835	830	817	812	822	835	815	825	812	806
33	Hot	842	840	832	827	835	841	833	832	820	813

	167	168	169	170	171	172	173	174	175	176	177
431	805	803	800	797	767	785	760	755	752	75	
32	815	817	822	817	807	817	787	790	790	78	
33	833	825	830	825	815	816	787	782	782	78	

	177	178
431		
32		
33		

432 Dup 431

Lot 5.229
Cal 272
T 49



433 Sup 431 —

Wt 5.240
Cal @ 272
J 49

434	6.385	273	49
435	6.211	273	48
434	6.304	272	50

	1	2	3	4	5
434	927	900	905	856	868
435	945	923	921	877	884
436	946	922	912	882	893

Hot Endurance

		56	57	58	59	60		112	112	113	114	11
434	After	925	920	910	907	907		914	903	872	905	89
35	50	942	935	930	925	920		930	905	920	908	9
36	Hot	950	950	927	920	923		947	928	937	926	9

		166	167	168	169	170		211	212	213	214	2
434		926	925	920	925	916		925	900	900	886	9
35		935	937	940	932	920		932	907	900	900	9
36		947	945	950	940	925		935	910	900	905	9

	276	277
434		
35		
36		

Mode

434 = 21000 absorbed to 21750
9000 Cobalt 4 Coke 0.001 - Thro 20
4000 of Cumarsi -
Coated Tubes - rung in before packing

This group to be charged 10 hours Reg allowed to rest 10 hours charged again 10 hours rest 10 hours - 400 on so it gets 3 charges of 10 hours + Three 2 days stops after ten hours before discharging — Then after runs in the regular way 5 complete charges discharge them to go on hot tests regularly —

Lot 6.304
Cal 272
T 50

435 Dup 434

Wf 6211
CaC 273
T 48

436 - Dup 434

CU f 6.385

Cor C 273

T 49

436	5.634	277	48
438	5.644	272	42
437	5.525	271	50

	1	2	3	4	5	6
437	623	798	837	787	800	823
438	597	797	846	806	837	845
439	598	775	827	781	797	822

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
437	After	847	854	850	846	843	846	838	853	840	843
38	50	880	882	875	875	870	886	862	871	861	862
39	Hot	850	850	847	840	842	876	850	861	850	857

437		855	848	850	847	837	840	810	870	807	817
39		858	870	888	877	858	865	832	832	832	841
39		827	877	838	880	870	885	858	858	850	856

437		
38		
39		

Made

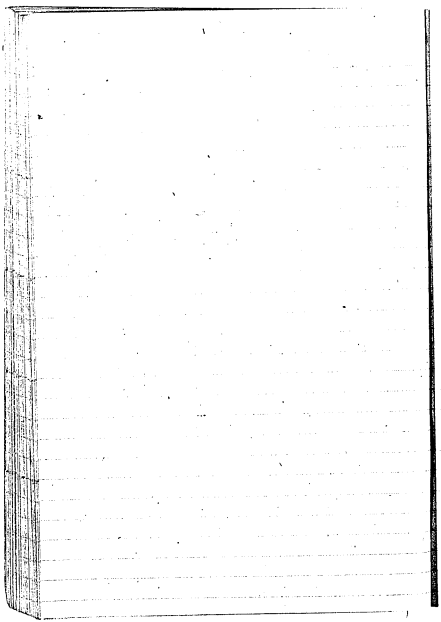
437 = 21,100 advanced to 21600
9000 Cobalt Carbide req 11mo 20
4000 Aluminum
Cobalt Carbide Tubes —
Rings on Before packing —
Pack with Conoco plunger rod regulator

~~bad~~

Weight, 5,525

Coal 271

T 50

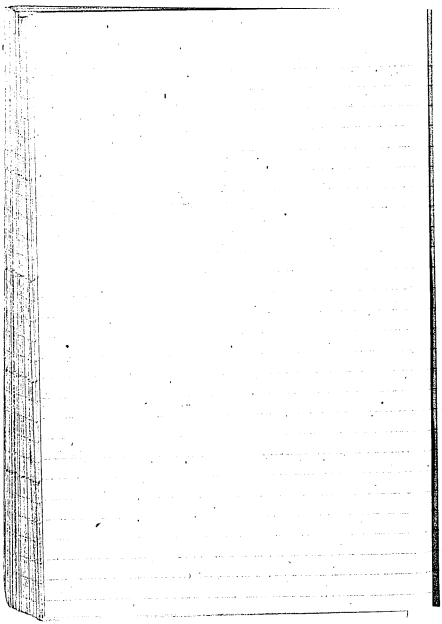


438 Dup 437

lot 5,644

Cal 272

T 48



439. Dup 437

Wt 5.684

Cal 272

T 48

442	5.675	272	48
441	5.664	272	48
440	5.675	272	49

	1	2	3	4	5	6
440	632	822	855	800	830	847
441	586	776	805	760	803	818
442	594	788	826	791	822	842

Hot Endurance

		60	61	62	63	64	115	116	117	118	119
440	After	850	860	840	850	845	862	860	862	862	847
41	50	850	857	827	845	847	878	865	865	862	850
42	Hot	857	855	825	837	840	886	872	867	865	85

	175	176	177	178	179	225	226	227	228	229
440	832	847	846	853	857	857	837	833	837	851
41	861	857	870	858	860	865	847	845	848	84
42	861	861	856	864	866	872	858	850	855	848

440 = .2100 reworked to .21665
4000 Usual Engine Run Thru 20
4000 Change
Cobalt phenol tube, rings on before pkg.
Ralphs New Copper Recovery Process
To be run 3 Times Each then reversed
once full time after reg change or
changed originally - Run 3 times
Regular - Keep these up
until it has had 3 Runs of 3.
Each with a reversal between
Each 3 days - Then put on hot
test + after 25 hot runs reverse
Change 1 hot
to regular + let it run its force
50 changes the reasonableness
This test is to determine if the
Copper has a good influence -

Lot 5.675
Col 272
T 49

441—Rup 440

Lof 5,684

Col 272

T 48

442 Cup 440

Wt 5.759

Col 272

T 48

445	5.702	272	49	
444	5.938	273	48	
443	5.854	273	49	.

	1	2	3	4	5	6
443	657	832	850	816	840	855
444	686	848	870	832	862	880
445	688	840	867	833	860	880

Hot Endurance

		60	61	62	63	64		115	116	117	118	119
443	After	891	875	855	865	862		900	897	882	889	878
44	50	907	902	880	890	885		925	917	902	885	878
45	Hot	891	877	868	875	875		912	900	892	892	878

		170	171	172	173	174		225	226	227	228	229
443		886	878	876	884	885		933	886	860	865	869
44		900	900	891	900	900		910	916	882	885	878
45		870	878	877	888	894		893	898	868	868	878

443 = Duplicate of 44D
Except Fuse Nickel plated
tubes

21600 grounded to 21600

Cut 5.854

Cal 273

T 49

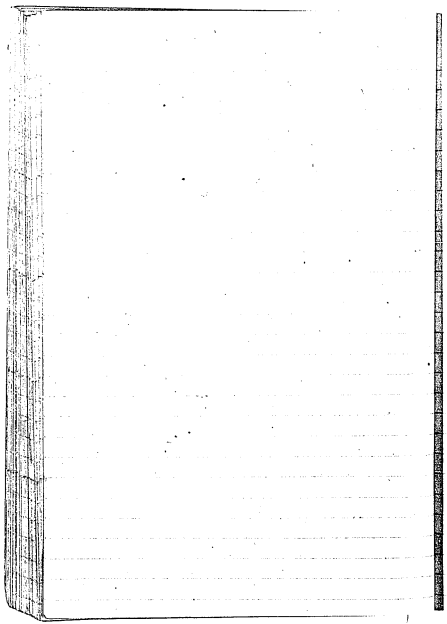
grind Facing

444 Sup 443

Lot 5.938

Col 273

T 48



445 Dcup 443.

Wf 5.902
Col 272
T 49

445	3,400	26-90-93	1003-250 Cm
447	3,400	82-90-94	" "
448	3,400	77-90-94	" "
449	3,400	83-90-91	" "
446	3,400	22-90-94	" "

	1	2	3	4	5	6
446	380	433	440	450	455	465
447	367	416	417	432	427	450
448	370	425	442	456	458	473
449	362	415	418	437	442	455
450	350	405	417	433	445	460

Wet Endurance

		57	58	59	60	61		112	113	114	115
446	AFTER	485	495	492	495	490		497	496	502	497
47		475	487	480	475	467		450	452	463	461
48	50	500	503	500	497	502		472	476	485	485
49		467	472	472	470	471		480	472	485	481
50	HOT	492	492	493	490	487		472	480	467	480

	167	168	169	170	171		222	223	224	225
446	495	485	495	495	485		435	421	427	442
47	440	435	443	445	442		390	400	395	391
48	475	470	477	475	467		440	447	437	440
49	447	447	455	457	450		378	398	382	390
50	445	437	447	447	432		367	390	378	391

Make —

446, 21000 absorbed to ——
9000 Cabot reg flake Nuva 20
4000 Glimmer

This mix the one put in sequence 4 Cat

Cups and pressed @ 100 atmos
Smooth press — @ 250 Atmospheres
Corrugating pressure — 3.4
put in 2 gallon Can —
Required 3 mins mixed —
Rhein Doctor work as with
Jacks — Make 5 packets —
Mechal properties —

Wet 3.4

CaC Cubes 88 — 5 days 90-447

447- Cadillac-Cimarron 83-Subs. 90 to 91

448 Cimarron 89- Subs. 94-97

449 Cimarron 88 Subs 90+97

450 Cimarron 86-Subs 91 to 93

451	5.490	.272	48
452	5.705	.277	49
453	5.596	.272	48

	1	2	3	4	5	6
451	707	800	800	768	785	807
452	720	827	840	797	817	830
453	705	808	817	770	766	797

Hot Endurance

		57	58	59	60	61						
451	After	840	837	834	830	827		840	828	833	845	8 6
52	50	837	850	846	850	861		855	845	850	840	8 6
52	Hot	855	860	847	845	846		862	840	850	840	8 3

451	827	822	830	822	808	811	782	791	792	7 7
52	450	830	808	795	832	821	550	632	838	7 8
53	860	847	850	847	838	830	807	800	807	7 8

451											
52											
53											

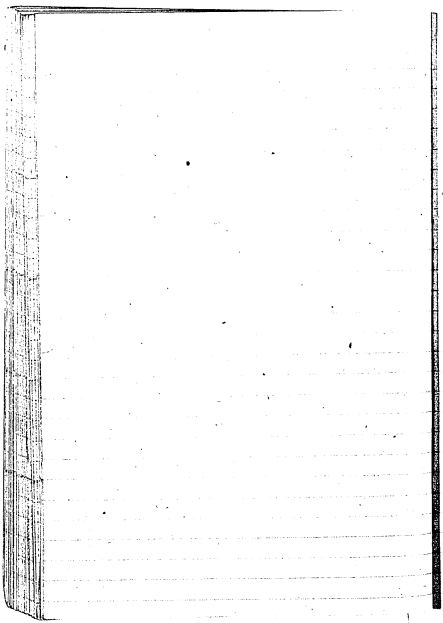
451- 21000 [illegible] to 21700
9000 [illegible]
4000 Glucose —
Cubical [illegible] Pulsator — rings on Screw
for shaking —

To be assembled with old Iron Taken
from Twin Cells which were cut out
21st Feby — used the Cells that were
the highest Endurance with pickle in oil
Use Irons from old 31 33 + 34

Wt 5490

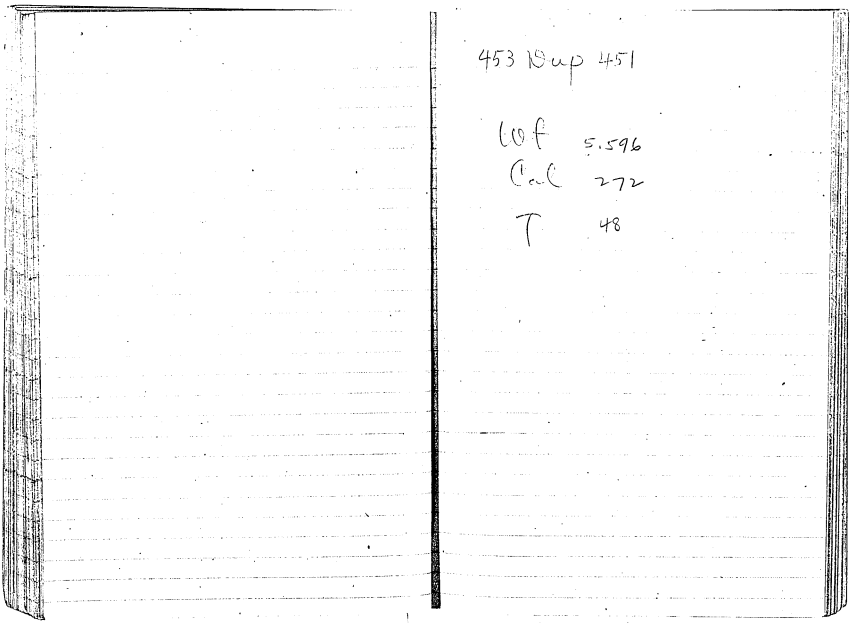
CoC .272

T 48



452 - Dup 1751

Lit 5705
Col 272
T 49



453 Dup 451

Lof 5.596
Cal 272
T 48

454	5.492	272	48
455	5.491	271	48
456	5.447	273	48

	1	2	3	4	5	6
454	687	816	831	794	807	827
455	650	805	847	817	835	846
456	640	800	824	795	816	820

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
454	After	933	879	903	854	857	868	847	852	845	83[illegible]
55	50	842	890	857	851	881	887	871	872	857	86[illegible]
56	Hot	872	845	835	832	835	842	843	843	833	83[illegible]

	107	108	109	110	111	222	223	224	225	226
454	867	857	865	850	845	857	835	835	831	8[illegible]
55	872	857	877	863	850	857	835	832	830	[illegible]
56	841	877	828	875	874	850	830	830	825	[illegible]

	272	273									
454											
55											
56											

454 Duplicate of 457
21 [illegible] to — 21600
Except Nickel [illegible]
and
use transform 41 45 & 55 —

Cot 5.492

C.C .272

T 48

455 Dup454

Wf 5,491
Cal 271
T 48

456 Rep 454

Wt 5,447

Cal 273

T 48

457	5.498	271	48
458	5.432	271	48
459	5.223	271	48

	1	2	3	4	5	6
457	617	778	795	740	757	775
458	630	780	792	737	750	773
459	607	737	740	715	744	750

Hot Endurance

		57	58	59	60	61	110	113	114	115	116
457	After	822	820	815	800	810					
58	50	817	815	800	797	810					
59	Hot	800	797	787	775	780					

	167	165	169	170	171	232	233	234	235	236
457										
58										
59										

	277	276	279	280	281
457					
58					
59					

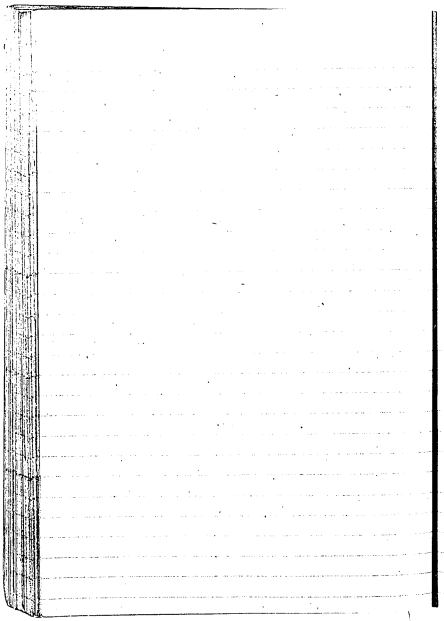
457 = 21000 - absorbed to 21500

Green nickel hydroxide not so porous, the sulphate reduced by an extra wash before drying. Just brought up to lab by first pin 22nd screened thur 20

9000 Cobalt 19 9 0001 thur 20
Cobalt & Cadmium Cakes — Hung in Cafeteria

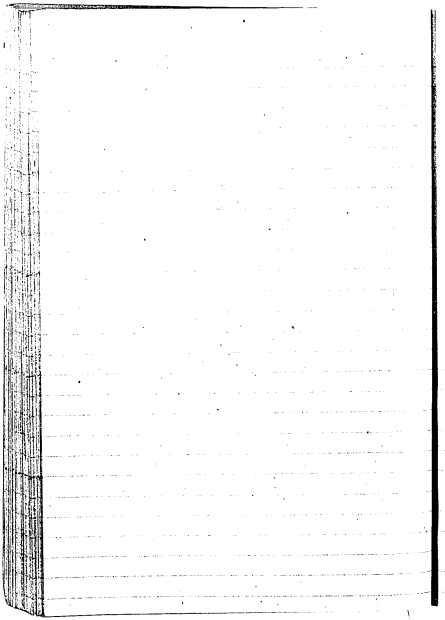
100 of 5498
Cal 271
T 48

Thru mixing tumbler sticky - stiff dough - after flakes sorted it balled + held head time break build. Slicc same in - got wet all thru core [illegible] flake pressed mostly only little green accn - Must cut the Kind of green absorb. One gram or more water to stop drying up mix



458 Dup 457

Cof 5,433
CaC 271
T 48



459 Sup 457

Uof 5323
Cal 271
748

460	5.573	272	49
461	6.017	272	49
462	5.784	272	50

460 Duplicate of 457
Except two Nickel Plated Tubes
Electro-Welded Straight Tube
Gauged to 22.060

Lot 5.573
Cal 272
T 49

	1	2	3	4	5	6
460	640	792	802	796	816	835
461	707	890	902	855	898	895
462	610	795	915	780	806	835

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
460	After	537	575	561	850	857					
61	50	950	942	935	927	925					
62	Hot	906	897	892	892	886					

	167	165	169	170	171	222	223	224	225	226
460										
61										
62										

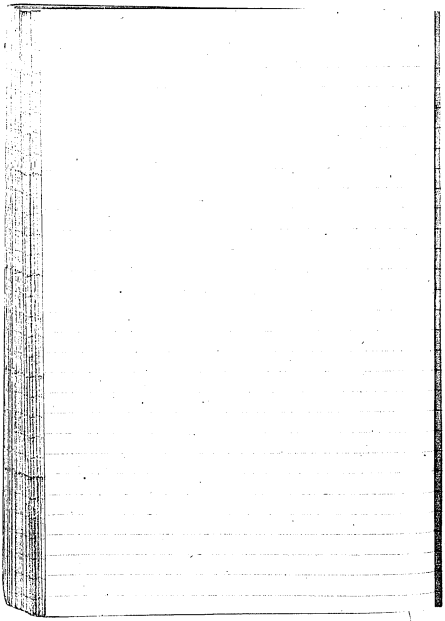
	277	278	279	280	281
460					
61					
62					

461 Rup 460

1 of 6.012

Cal 272

T 49



462 Cup 460

Lof 5.784
Cal 272
T 50

463	5.554	273	47
464	5.656	277	47
465	5.624	272	48

	1	2	3	4	5	6
463	655	792	804	765	796	812
464	672	800	812	795	800	822
465	667	809	827	796	803	833

Hot Endurance

		57	58	59	60	61					
463	After	867	857	846	837	847					
64	50	892	887	875	862	871					
65	Hot	882	870	856	850	847					

	167	168	169	170	171					

	277	278	279	280	281					

463 = Duplicate of 457 except
3500 lbs/sq in
Cast [illegible] [illegible]
Ckg = 21[illegible] 22000

List 5.554

CaC 273

T 47

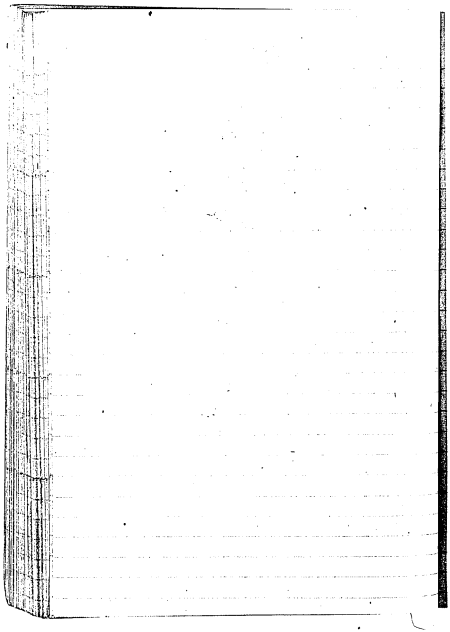
Mix very sticky, draughy but not [illegible] 3400 w/ Exact for the Ridge of Nickel hipped & sleeve — 3000 w. dwg do exact w.r. with Y Mink

464 = Dup of 463

Lot 5.658

Cal 272

T 47



465 Cup of 463 =

W-f 5.622

Cal 272

T 48

466	5.659	273	48
467	5.620	273	50
467½	5.625	273	47

	1	2	3	4	5	6
466	605	843	976	530	844	875
467	673	843	861	827	833	868
467½	673	832	860	815	821	845

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
466	Astm	895	887	877	870	871					
467	50	895	882	877	877	871					
467½	Hot	892	881	877	872	871					

	167	168	169	170	171	222	223	224	225	226
466										
67										
67½										

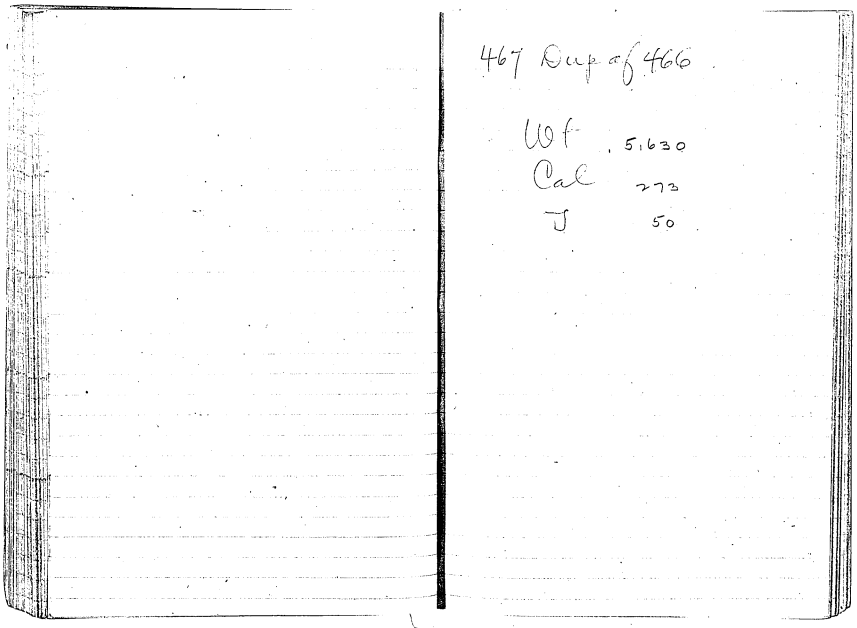
	277	278	279	280	281
466					
67					
67½					

466 = Dup of 467
Except 3506 of Cu on
+ put in Nickel plated tube
ran 90 on before pouring
21000 absorbed to 220 po

Cl f 5.659

Cal 273

T 48



467 Dup of 466

Wf 5.1630
Cal 273
J 50

467½ Sup of 466.

Wf 5.625

Cwl 273

T 47

468	5.434	272	48
469	5.475	272	48
470	5.565	272	50

	1	2	3	4	5	6	
468	711	842	554	800	800	832	
469	775	873	887	795	824	855	
470	713	848	880	797	832	848	

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
468	Arrow	167	350	446	530	590					
69	50	570	847	850	850	850					
70	Hot	900	895	824	885	887					

	167	168	169	170	171	223	224	225	226
468									
69									
70									

	227	228	229	230	231
468					
69					
70					

468 = Duplicate of 457
Except 3500 gl Diesel
+ 7000 Cobalt 129 (take thru 20 Cobalt placed tubes, rings on before breaking —
21000 adjusted to 22060.

Wt 5,434
Cal 272
T 48

469 Dup 468

Lot 5.475

Calc 232

T 48

470 Rup 468

Lot 5,568

Cal 272

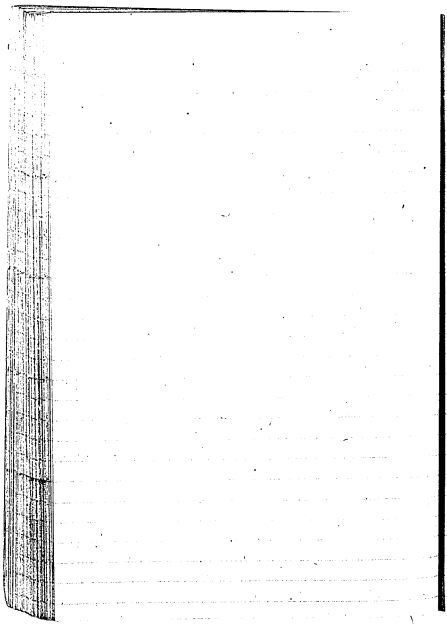
T 50

471 = Duplicate of 457
Except 3500 glucose
7000 Cobalt Cobaltous
But in Mackaphail Labs
remarks on backfor pkg
21000 Gamble To

Lot
Cal

T

472 Dup 471
lof
Cal
T



473 Dup 471

Wt.

Cal

T

474	5.697	273	48
475	5.680	273	48
476	5.659	272	48

	1	2	3	4	5	6
474	677	798	802	796	800	827
475	632	787	796	786	800	817
476	657	772	780	775	775	802

Hub Endurance

		57	58	59	60	61	112	113	114	115	116
474	After	867	867	850	847	850					
75	50	856	850	837	835	835					
76	Hot	850	847	836	837	836					

	167	168	169	170	171	226	227	228	229	230
474										
75										
76										

	277	278	279	280	281
474					
75					
76					

4"14 = 21000 absorbed to 21000 —
Requires [illegible] grease consistency
in 350 Elc — Thru 20 —
Cobalt plated tube to be packed
without any rings then oval rings
put in which are 10 to 15 1000 longer
than the outside of tube, the oval
form serving to hold ring in position
until the sprocket is driven
9000 Cobalt Coke req thru 20
4000 of Cleaner —

Wt 5.697

Cal 273

T 48

475– Dup 474

Wt 5.680

Cal 273

T 48

476 Cup 474

Wf 5.659
CaC 272
T 48

477	5.799	273	48
478	5.895	272	49
479	6.097	273	48

	1	2	3	4	5	6
477	646	825	857	855	850	821
478	612	812	855	855	857	880
479	694	867	897	894	897	922

Hot Endurance

		57	58	59	60	61	113	113	114	115	1
477	After	940	921	927	915	908					
78	50	915	905	900	895	895					
79	Hot	967	952	950	950	941					

	161	162	169	170	171	223	223	224	225	6
477										
78										
79										

	277	278	279	280	281
477					
78					
79					

477 = Dup of 474

Except was Nickel plated

tubes

given 21000 absorbed to 21672

10 of 5.799

Cal 273

T 48

478 Dup 474

Li+ 5,895
CaC 272
T 49

479-Eup 474
LUT 6,097
CaC 273
T 48

480	6.003	273	51
481	5.818	272	50
481½			

	1	2	3	4	5	6
480	667	840	860	896	905	892
481	610	810	850	896	915	897
481½	—	—	—	—	—	—

Hot Endurance

		53	58	59	60	61	113	113	114	115
480	After	907	857	907	900	897				
481	50	900	855	916	900	900				
481½	Hot	—	—	—	—	—	—	—	—	—

	167	168	169	170	171	221	222	224	225	226
480										
481										
481½	—	—	—	—	—	—	—	—	—	—

	277	278	279	280	281
480					
481					
481½	—	—	—	—	—

480 — This is measurement of M/X 3534 356 — put together — to be cut up of 355 00 Hot hardness ~~Ske~~ weighing grams —
9000 Cu 4500 grams
Cobalt plated (like impressions) ~~type~~ Rings pure Nickel C

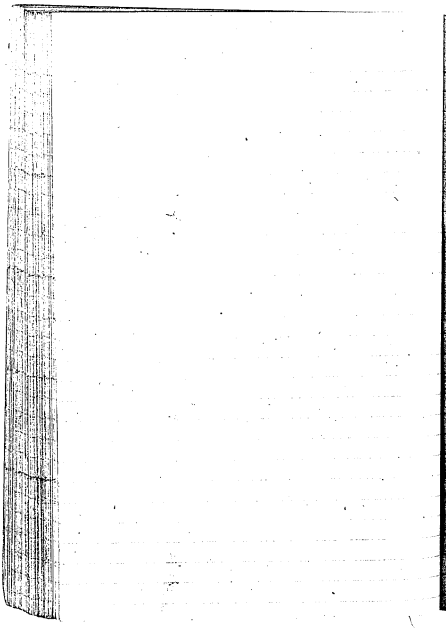
Wt 6.003
Cal 273
T 51

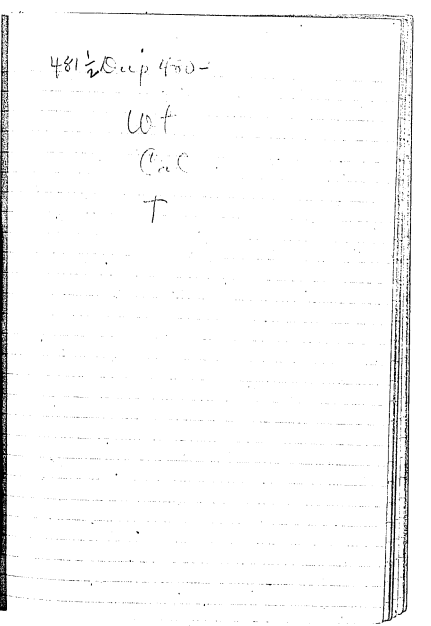
481 Dup of 480

Lot 5,818

Cal 272

T 50




481½ Cup 450-
Wt
Cnc
T

482	5.460	272	48
483	5.571	273	48
484	5.443	271	49

	1	2	3	4	5	6
482	69	824	808	845	852	845
483	590	797	787	825	841	825
484	635	788	785	812	830	812

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
482	AFTER	845	845	847	847	843					
83	50	847	842	845	846	842					
84	HOT	843	840	840	847	837					

	162	165	169	178	171	222	223	224	225	226
482										
83										
84										

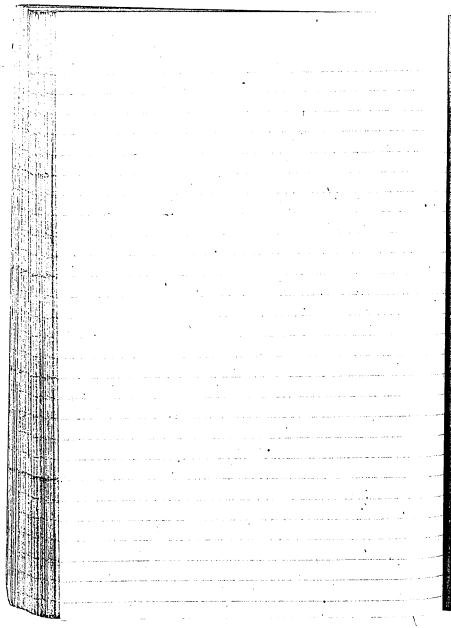
	277	278	279	280	281
482					
83					
84					

482 Thus is remnants of 111X 368 & 371 —
Used to Duplicate 356 — which had
iron bands on before pkg —
Nickel plated tube bands on before pkg.
Rimpo pure ni. added

UF 5.46

Cal 27 supplement 27216 pp 111 [illegible]

T 52 48



483 Dup of 482
Cut 5.5.21
Cat 2.13
T 42

484 Cup 482
LOA 5443
Cal 271
7-49

484½	5.956	272	48
485	5.687	271	49
486	5.690	271	49

	1	2	3	4	5	6
484½	675	820	845	842	840	862
485	740	867	878	831	847	872
486	675	805	817	797	800	832

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
484½	After	927	924	910	910	900					
85	50	917	906	902	900	896					
86	Hot	880	872	856	852	851					

	162	163	164	176	177	224	225	226	227	228
484½										
85										
86										

	277	276	278	280	281
484½					
85					
86					

484½ Remnants of 374-374 mix - to Replicate 368 roller head cam rings on leg mandrake -
Nickel plated tubes, rings on perforated pkg -
These are to be run with Ralphs new Copper Mercury Trans Rings pure nickel

Wt 5.956
Cal 272
T 48

485 Dup 484½
W-F 5687
Ca.C 271
T 49

486 Sup 484
Vol 5.690
Cal 271
T 49

487	5.1610	271	48
488	5.1648	270	49
489	—	—	—

	1	2	3	4	5	6
487	750	862	870	857	822	872
488	700	812	830	805	813	858
489	—	—	—	—	—	—

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
487	After	915	898	890	888	893					
88	50	908	896	875	878	860					
89	Hot	—	—	—	—	—					

	167	168	169	170	171	222	223	224	225	226
487										
88										
89										

	277	278	279	280	281
487					
88					
89					

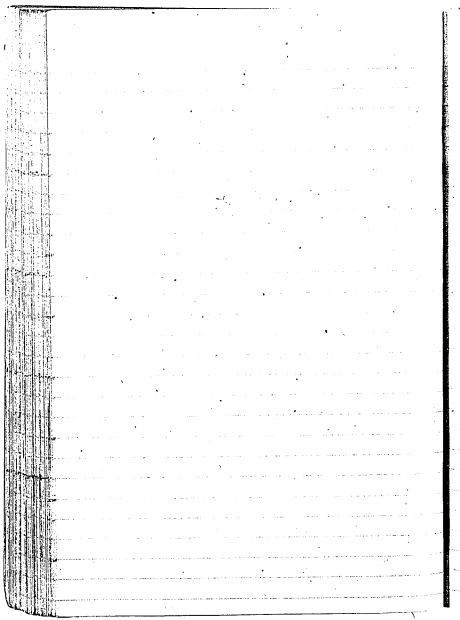
487 Remnants left from 401—
Did Replicate with 1 or 2 tubes
of these in Furnish 401 — as old 401
had more Rings put on by mistake,

Wf 5.1610

C.C 271

T 48

488 Dup 487.
UCT 5.694
Cal 270
J49



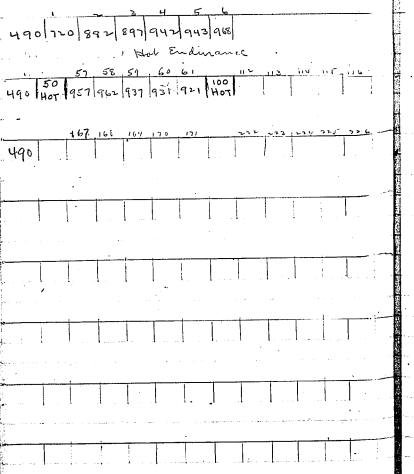
489 – Dup 487

Wt

Cal

T

490 | 5.710 | 272 | 48



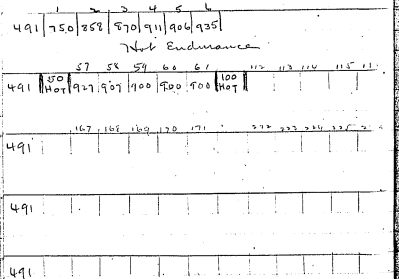
490 Rig [illegible] 404 -
in Cobalt plated Duke combustion
pure Nickel rings worn out
on 404 by mistake in
Early stages mix for 1 tube.

Wt 5.710

Val 272

T 48

491 | 5.430 | 272 | 48 |



491 – Remanufactured 410 –
Maker 1 Cubic Inch
power reciprocating air compressor

Lot 5,430
Cal 272
T 48 –

492 | 5.685 | 272 | 48

1 2 3 4 5 6

492 | 792 | 913 | 984 | 1003 | 1007 | 1025

• Hot Endurance

57 58 59 60 61 112 113 114 115 116

492 | 50 Hot | 950 | 975 | 975 | 972 | 936

167 168 169 170 171 222 223 224 225 22

492 |

492 – Remnants, 413 –

prime material mixing - old epoxy (cut)
[illegible]
[illegible] to make 1 batch

Wt ~~5.910~~ 5.685

Cal ~~276~~ 272

T ~~48~~ · 48

493 | 5.446 | 272 | 48

493 | 557 | 722 | 753 | 727 | 732 | 768

Hot Endurance

493 | 50 Hot | 824 | 617 | 500 | 700 | 800

493

4(5 — Remarks of 350 – colored ball
worn rings on big end inside –
Even light pr. Tube only

Wt 5446

Cal 272

T 48

494	5.714	272	50	
495	5.669	271	48	

	1	2	3	4	5	6
494	725	850	546	835	840	525
95	710	821	540	800	808	643

Hot Endurance

		57	58	59	60	61	112	113	114	115
494	50	920	907	900	900	885				
95	Hot	897	877	710	800	785				

	167	168	169	170	171	232	233	234	235	6
494										
95										

494 Remnant is 383 to Exp 383 m
from rings once pist only inserted
Mean Wall rings —

Weight 5714

CuC 272

T 50

495 Dup of 494

LOC 5669
Cal 271
T 48

496	5.922	272	48
497	5.690	271	48

	1	2	3	4	5	6
496	775	910	947	930	932	950
497	772	897	917	908	905	922

Hot Endurance

	57	58	59	60	61	112	113	114	115
496	50	921	954	950	932	936			
97	Hot	925	906	890	875	891			

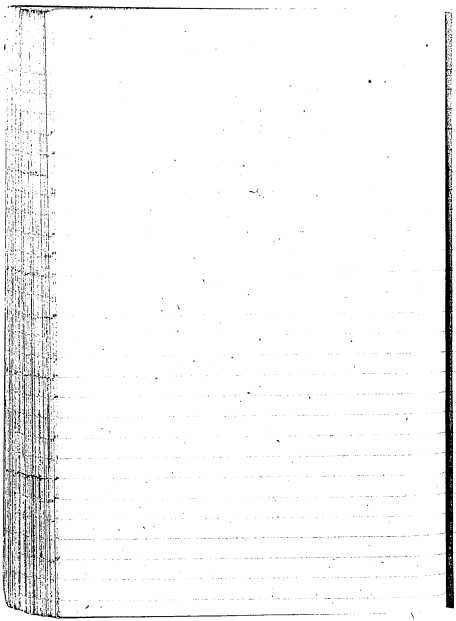
	167	168	169	170	171	222	223	224	225	226
496										
97										

496 = Remnants of 345- columns and
iron rings on slow interrupted
Cobalt plated Carbon rings on Safford
plug —

Wf 5922

Cal 272

T 48



497.Dup490-
Ucl 5690
CaC 271
T48

498 | 6,007 | 271 | 49 |

	1	2	3	4	5	6
498	662	848	882	857	894	897

Hot Endurance

	50 Hot	60	61	62	63	64	115	116	117	118
498	917	912	893	900	892					

	170	171	172	173	174	221	222	223	224	225
498										

498 21000 combined to 21705
9000 Co flakes
4500 glucose -
Range on before grading
Cobalt glide tubes - 4
tube ~~combined~~ combined with Rudolphs
New Copper Mercury trans -

Wt 6007

Cal 271

T 49

499	5.443	272	49	
500	5.430	271	49	

	1	2	3	4	5	6	
499	747	841	842	200	817	847	
500	762	850	850	791	797	847	

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
499	50	855	875	853	838	850					
500	Hot	870	860	848	835	847					

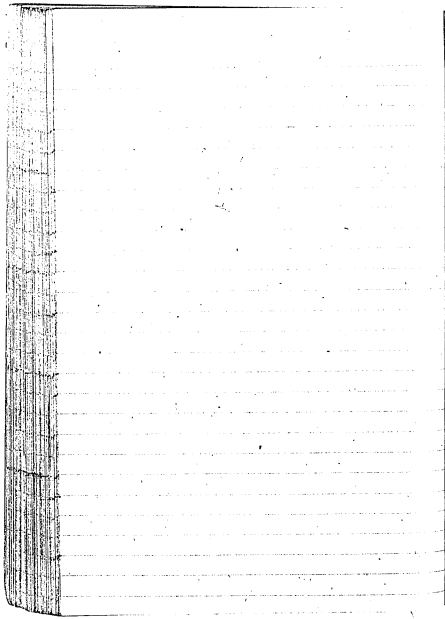
	167	168	169	170	171	222	223	224	225	226
499										
500										

499 = Remants of 428 –
To duplicate 428 but with
Nickel rings on both pkg instead
of iron as in 1st Lot,

Lot 51443

Cal 272 . .

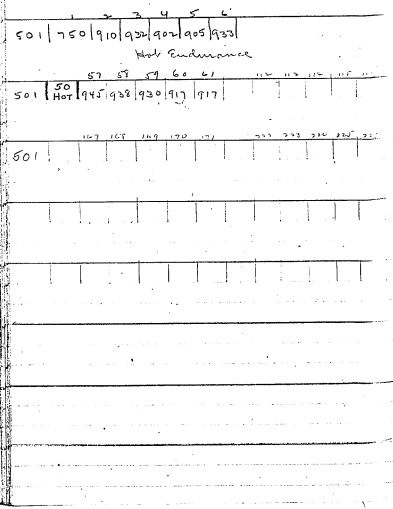
T. 49



500 Exp 499.

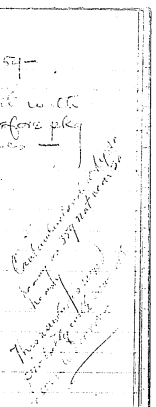
Lot 51430
Cal 271
T-49

501 | 6.711 | 271 | 49 |



501= Remnants of 357—
Low temp
Thermostat engine end to cut
Nickel rings—on before pkg
Nickel plated tubes—

6.711
271
T 49



502	5,827	272	48
503	5,664	272	49
504	5,713	273	48

Said not numbered on crowd. not inclusive in groups.

	1	2	3	4	5	6
502	667	840	875	862	867	892
503	645	812	842	837	830	850

Hot Endurance

		57	58	59	60	61					
502	50	920	917	917	900	892					
03	Hot	893	892	875	877	874					

	167	165	160	173	171					
502										
03										

502 = 21000 absorbed to 21710 —
thro 20
9000 Cobalt flake. NOT run
through Hydrogen
4080 grease
Cobalt flake thro 20 inserts —
Cobalt plated tube rings mbs for flake

Lot 5.828

Col 272

T 48

Mix with flake more brittle
than flake thro H,

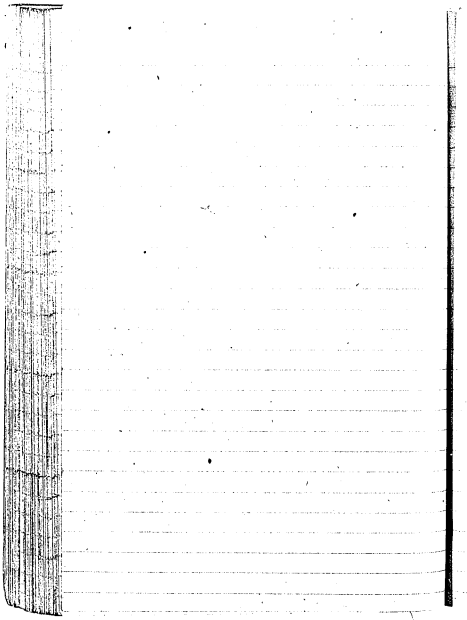
3.52 grain —

503 Dup 502

Wt 5.684

Cal 272

T 49



504 Dup 502:
Lot 5173
Cal 273
T 48

505	5.774	273	49	Load not significant or could
506	5.709	273	50	have significant in groups.
507	5.567	273	50	

	1	2	3	4	5	6	
505	642	812	843	837	850	877	
506	—	—	—	—	—	—	
507	717	847	855	822	835	850	

Hot Endurance

	57	58	59	60	61	112	113	114	115
505	After 917	905	900	897	892				
06	50 —	—	—	—	—				
07	Hot 895	880	870	875	867				

	167	168	169	170	171	222	223	224	225	226
505										
06										
07										

505 Duplicate of 502

Except Nickel plated

21600 absorbed to 21732

Wt 5.774

Cal 273

T 49

Nuts used sticky — furnished with assembled reverse Bulkley [illegible]

506 Dup 505

Lof 5,709

Cal 273

T 50

507 Dup 505

Wt 5.587

Cal 273

T 50

508	5,216	271	47
509	5,138	272	51
510	5,236	272	48

	2	3	4	5	6	
508	780	780	770	737	727	772
509	696	747	737	705	710	750
510	682	738	740	708	717	762

Hot Endurance

		57	58	59	60	61	112	113	114	115
508	After	820	800	780	778	765				
09	50	790	782	767	770	767				
10	Hot	792	792	787	787	765				

	167	168	169	170	171	222	223	224	225	226
508										
09										
10										

508 = 21000, abraded to 21600 (Illegible)
9000 CoGact fCake Illegible 20
4000 glucose
CoGact after all liquid rings on before packing.
Packed 50 Singles Trimmed

Wt 5,216
Col 271
T 47

3.15 protein

509-Dup 508

Wt 5.138

Cal 272

T 51

510 Dup 508
Lof 5,236
Col 272
T 48

511	6.239	271	50
512	6.131	272	48
513	5.889	271	49

third not guaranteed as could not include in group.

	1	2	3	4	5	6
511	608	835	882	890	897	920
512	611	850	905	910	917	938
513	—	—	—	—	—	—

Hot Endurance

		57	58	59	60	61	112	113	114	115	116
511	After	963	957	950	952	920					
12	50	967	975	970	962	950					
13	Hot	—	—	—	—	—					

	167	168	169	170	171	222	223	224	225	226
511										
12										
13										

511 Duplicate of 508

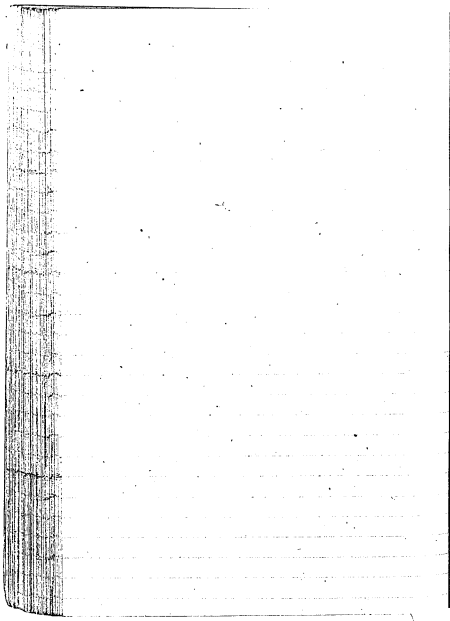
Except Nickel Cobalt Tubes
rings charge 1kg
50 Single Tubes

21000 changed to 21688

Wt 6.239

Col 271

T 50



512 Rup 511
Wf 6.1131
Cal 272
T 48

513 Dup 511

Lot 5,889
Col 271
T 49

I notice that these mixes like the holes of the transparent above with the graphite mix – they seem to be open as they are in the original strip – cold with open flake there is a single flake on the surface of the cylinder ~~of~~ mix after the tube is opened + stripped from it

514	5.637	272	48
515	5.588	272	48
516	5.276	272	48

	1	2	3	4	5	6							
514	597	802	850	880	816	745							
515	656	808	824	846	790	817							
516	667	777	785	802	755	780							
	57	58	59	60	61		112	113	114	115	116		
514	After	777	788	881	865	566							
15	50	862	857	840	837	838							
16	Hot	858	810	800	800	800							
	167	168	169	170	171		222	223	224	225	226		
514													
15													
16													

Hot Endurance

514 21000 given above Grd to 21.720
9000 Cobalt flake Thro 20 -
4000 glucose -
Cobalt tube plated rings on both ends packing -

In each cell put 21% KOH, Containing 250 Milligrammes of Silicate of Potash in each cell

Wt 5.637

Cal 272

T 48

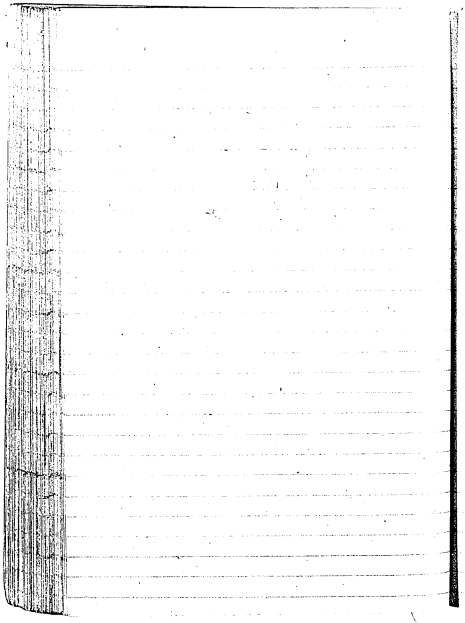
Cracked one end

515 Dup 514

Wt 5.588

Cal 272

T 48



516 Dupof 514–

Wt ~~5.6~~ 5.27 L.

Col 27 V

T 48

cracked one end

517	5.491	772	48	
518	5.355	772	49	
519	5.504	772	48	

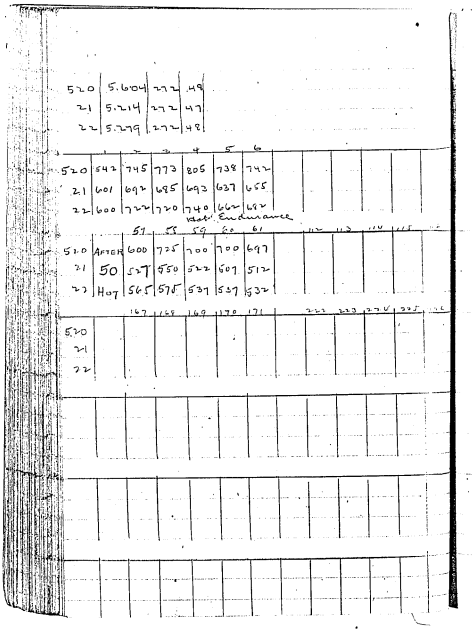
		1	2	3	4	5	6	
517		640	791	811	835	795	821	
18		641	778	786	808	762	792	
19		683	840	850	882	810	847	
				HOT ENDURANCE				
		57	58	59	60	61	112 113	114 115
517	After	881	866	847	846	847		
18	50	830	830	802	805	800		
19	Hrs	857	875	858	86.	847		
		167	168	169	170	171	222 223	224 225
517								
18								
19								

517 - Duplicate of 514
2000 spun & bun 6:1 to 24/030
Except Make of Braid - Tube
250 Milgun Silicate Polish
Each coil -

Wt 5.491
Cal 772
T 48

518 Dup of 517 cracked one end.
Wt 5.355
Cal 772
T 49

519 Dup of 517
Wt 5.504
Cal 772
T 48



	1	2	3	4	5	6	
520	5.604	272	48				
21	5.214	272	47				
22	5.279	272	48				

	1	2	3	4	5	6	
520	542	745	773	805	738	742	
21	601	692	685	693	637	655	
22	600	724	720	740	667	682	

Last Endurance

		51	55	59	60	61	112	113	114	115	116
520	After	600	725	700	700	697					
21	50	527	550	522	507	512					
22	Hot	565	575	537	537	532					

	167	168	169	170	171	333	333	334	335	336
520										
21										
22										

520 Duplicate of 514
Except put in each cell -
250 Milligrammes Metallic
Aluminium — in each cell
Cabaltous Chloride powder range
Before Pkg 21000 gms after Pkg to 21.600

Wt 5.604
Cal 272
T 48

521 Dup 520

Wt 5.214
Cal 272
T 47

522 Dup 520

Wt 5.279
Cal 272
T 48

523	5,795	272	50	
24	5,620	272	50	
24½	5,450	272	50	

		2	3	4	5	6	
523	503	693	725	600	705	745	
24	500	676	700	724	672	694	
24½	530	670	687	687	640	665	

Hook Endurance

		57	58	59	60	61							
523	After	795	630	555	578	550							
24	50	610	621	577	595	592							
24½	Hot	487	595	447	570	562							

		167	168	169	170	171							
523													
24													
24½													

523 Duplicate of 514—
Except Mckelp Cal
tubes temp as before plus
.250 MgO ammines, MoCl Cl Calcium
in each cack 21000 gms absorbed in 21.730

Wt 5,795
Cal 272
T 50

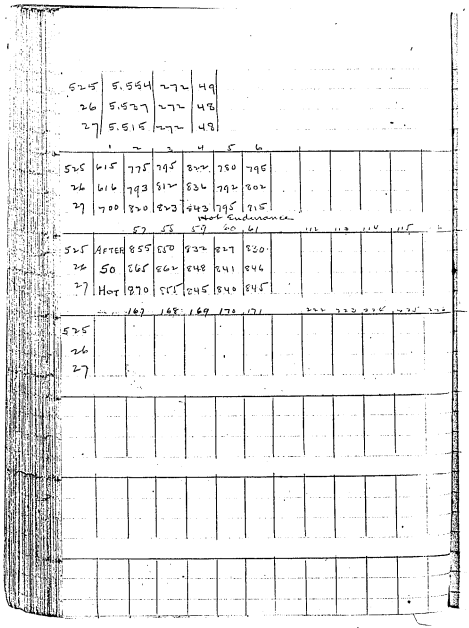
524 Dup 523

Wt 5.620 Cracked one end
Cal 272
T 50

524½ Dup 523

Wt 5,450
Cal 272
T 50

This balled terribly owing to its being very cold the steam was very dense.
Was got very dry before I broke up the ball.



525	5.554	272	49	
26	5.527	272	48	
27	5.515	272	48	

Hot Endurance

		1	2	3	4	5	6					
525		615	775	795	844	780	796					
26		616	793	812	836	792	802					
27		700	820	843	843	795	715					
		57	58	59	60	61		112	113	114	115	
525	After	855	850	837	827	820						
26	50	865	864	848	841	844						
27	Hot	870	855	845	840	845						
		167	168	169	170	171		221	222	223	224	225
525												
26												
27												

525 Duplicate 514
except Each ccc put in
250 Milgrammes Sulphate Copper
Cobalt plated tube rings on
before pkg 21000 inserted 21700

Wt	5.554
Cal	272
T	49

526 Dup 525

Wt	5.537
Cal	272
T	48

527 Dup 525

Wt	5.515
Cal	272
T	48

528	5.547	272	48	
29	5.382	272	48	
30	5.276	272	48	

	1	2	3	4	5	6	
528	575	715	737	761	720	750	
29	600	700	722	746	707	737	
30	605	748	770	792	750	781	
			Hot Endurance				
	57	58	59	60	61	112	113	114	115	116
528	After	796	790	775	774	775					
29	50	777	770	750	747	745					
30	Hot	837	827	812	805	806					
	167	168	169	170	171	221	223	224	225	226
528										
29										
30										

528 - Dup of 514
21000 Normal to 21,600
Except Nickel plated
tubes, rings & 62 Kerite packing
& 250 milligm. Sulphate Copper
in Each Cell —

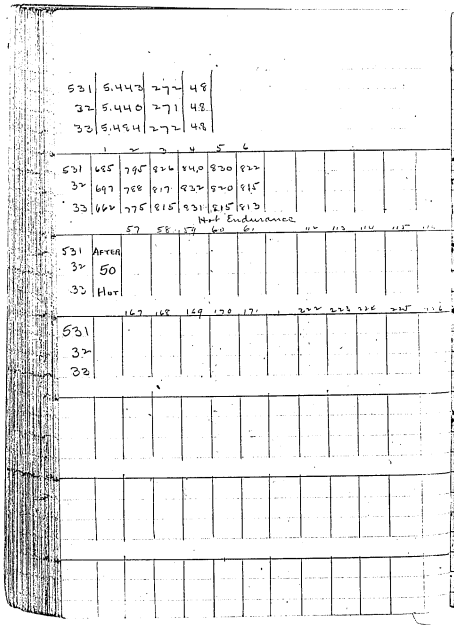
Wt 5.547
Cal 272
T 48

529 Dup 528

Wt 5.382
Cal 272
T 48

530 Dup 528

Wt 5.276
Cal 272
T 48



531	5.443	272	48	
32	5.440	271	48	
33	5.484	272	48	

	1	2	3	4	5	6
531	685	795	826	840	830	822
32	697	788	817	837	820	815
33	666	775	815	831	815	813

Hot Endurance

57 58 59 60 61 112 113 114 115 116

531	After
32	50
33	Hot

167 168 169 170 171 222 223 224 225 226

531
32
33

531 Duplicate 514

21000 grams (burned) to 21.688

Except in Each cell

250 milligrams Metallic Bismuth, Each cell

Cadmium Chloride tube, range 1.1V

before pkg

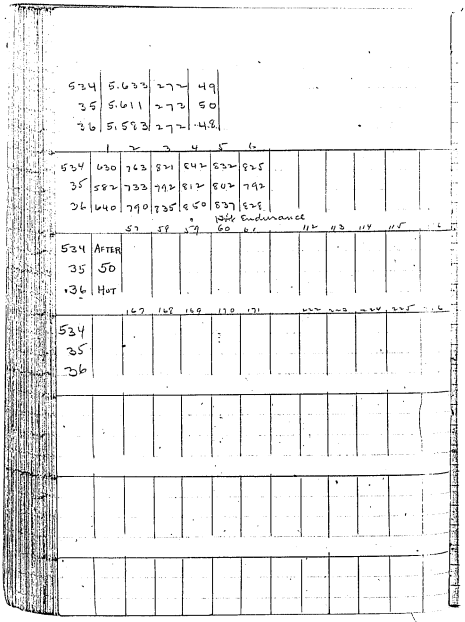
Wt	5.443
Cal	272
T	48

532 Dup 531

Wt	5.440
Cal	271
T	48

533 Dup 531

Wt	5.484
Cal	272
T	48



534	5.633	272	49
35	5.611	272	50
36	5.583	272	48

	1	2	3	4	5	6
534	630	763	831	847	832	825
35	582	733	792	817	807	792
36	640	790	835	850	837	828

10th endurance

	57	58	59	60	61	112	113	114	115
534	After								
35	50								
36	Hot								

	167	168	169	170	171	222	223	224	225
534									
35									
36									

534 Duplicate 514

2 tubes quantity used to 21.673

Except Nickel plated

tubes ruptures before ph 7

.250 Mil. Nitrate 15 to month

in each cage

Wt 5.633

Cal 272

T 49

535 Dup 534

Wt 5.611

Cal 273

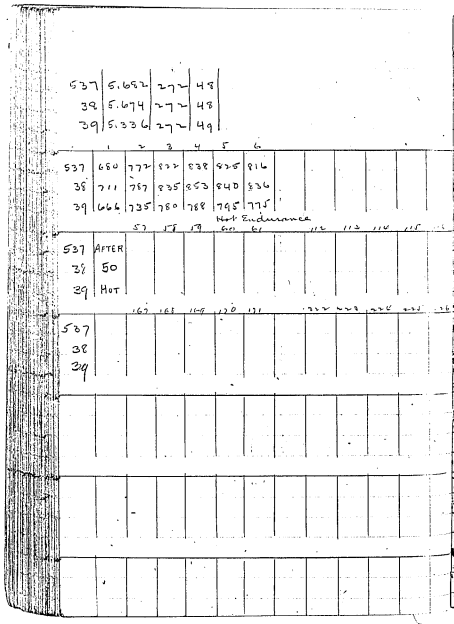
T 50

536 Dup 534

Wt 5.583

Cal 272

T 48



537	5.682	272	48	
38	5.674	272	48	
39	5.336	272	49	

	1	2	3	4	5	6	
537	680	777	837	838	835	816	
38	711	767	835	853	840	836	
39	666	735	780	788	795	775	

Hot Endurance

	57	58	59	60	61	112	113	114	115	
537	AFTER									
38	50									
39	HOT									

	167	168	169	170	171	222	223	224	225	226
537										
38										
39										

537 Duplicate of 514
21000 grain charge to 7.165
Except 250 Milligrams Manganate of Potash in Lab acid
Co Golf plated tube rings on before ply

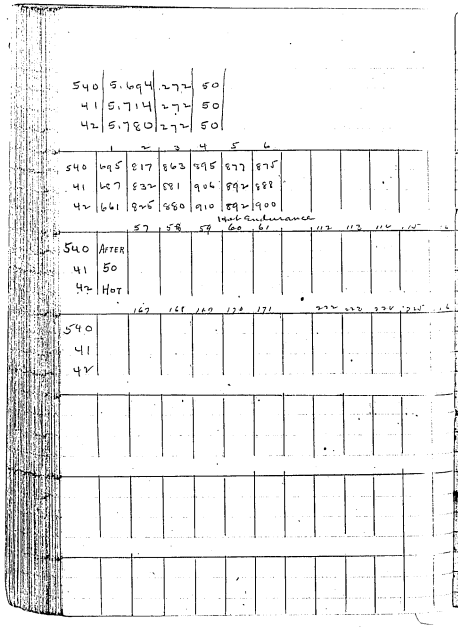
Wf 5.682
Cal 272
T 48

538 Dup. 537

Wf 5.674
Cal 272
T 48

539 Dup 537

Wf 5.336
Cal 272
T 49



540	5.694	272	50
41	5.714	272	50
42	5.780	272	50

	1	2	3	4	5	6
540	695	817	863	895	877	875
41	657	532	581	906	892	888
42	661	845	880	910	892	900

Inch Calibrance

57 58 59 60 61 112 113 114 115

540	After
41	50
42	Hot

162 163 169 170 171 222 223 224 225

540
41
42

540 Duplicate of 514
21000 gr manganese to 21758
Except Nickel plated Tubes
rings on before finishing
250 milligrams Manganate of Potash
in each cell

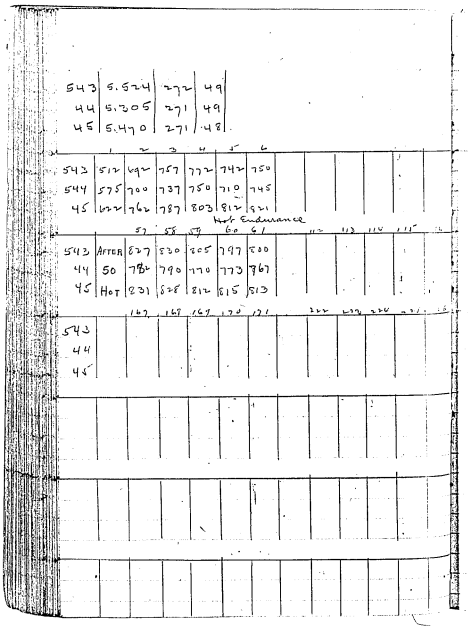
Wt 5.694
Cal 272
T 50

541 Dup 540

Wt 5.714
Cal 272
T 50

542 Dup 540

Wt 5.780
Cal 272
T 50



543	5.524	272	49	
44	5.305	271	49	
45	5.470	271	48	

		1	2	3	4	5	6						
543	512	692	757	772	747	750							
544	575	700	737	750	710	745							
45	622	762	787	803	818	821							

Hot Endurance

		57	58	59	60	61							
543	After	827	820	805	797	800							
44	50	784	790	770	773	767							
45	Hot	831	828	812	813	813							

		167	168	169	170	171							
543													
44													
45													

543 Duplicate of 514
21000 grams absorbed to 21655
Except 250 milligrammes of
Lead Oxide dissolved in the 21%
KOH — in each cell
CoCalf plated tubes run grow
Before plug

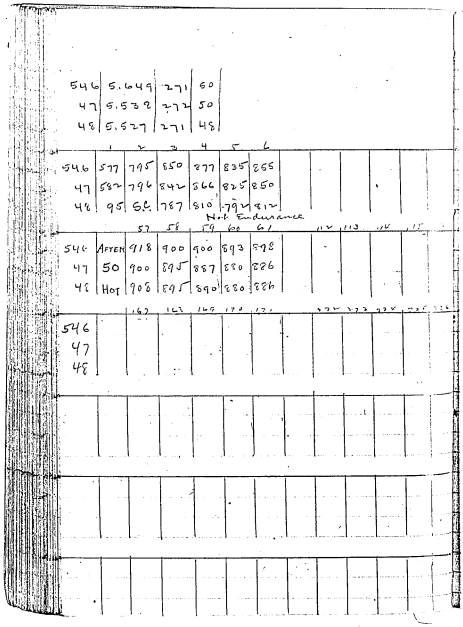
Lot 5.524
Cal 272
T 49

544 Dup 543

Lot 5.305
Cal 271
T 49

545 Dup 543

Lot 5.470
Cal 270 Cracked one end
T 48



546	5.649	271	60	
47	5.538	272	50	
48	5.527	271	48	

	1	2	3	4	5	6
546	577	795	850	877	835	855
47	582	796	842	866	825	850
48	95	62	787	810	794	812

Hot Endurance

	57	58	59	60	61	112	113	114	115
546	After	918	900	900	893	898			
47	50	900	895	887	880	886			
48	Hot	908	895	890	880	886			

	167	168	169	170	171	232	233	234	235	236
546										
47										
48										

546 Duplicate of 514
21000 grams absorbed to 21,708
Except Nickel plated tubes
with rings on before pkg
250 milligms Lead oxide placed in the
21% KOH in each case

Wt 5.649
Cal 271
T 50

547 Dup of 546

Wt 5.538
Cal 272
T 50

548 Dup of 546

Wt 5.527
Cal 271
T 48

549	5.530	272	48
50	5.454	271	49
51	5.582	272	48

	1	2	3	4	5	6
549	565	803	867	850	817	227
50	633	800	842	855	794	212
51	673	815	866	885	814	227

Hot Endurance

57 58 59 60 61 112 113 114 115

549	After
50	50
51	Hot

167 168 169 170 171 332 333 334 335

549
50
51

549 Duplicate of 514
2100 grams combined to 21.68%
Except 100 milligrammes of Barium hydroxide for 100 milligrammes of Calcium hydroxide in Each case — the 2 mixed together into 21% —
Cobalt plated tubes, purge on before pkg —

Wt 5.530
Cal 272
T 48

550 Dup of 549
Wt 5.454
Cal 271
T 49

551 Dup of 549
Wt 5.582
Cal 272
T 48

552	5.614	272	48	
53	5.530	271	49	
54	5.493	272	47	

	1	2	3	4	5	6	
552	717	690	917	930	887	882	
53	730	860	882	892	822	862	
54	690	837	860	878	830	846	

Heat Endurance

	51	52	53	60	61	112	113	114	115	
552	After									
53	50									
54	Hot									

	112	162	163	170	171	222	223	224	225	226
552										
53										
54										

552 Duplicate of 514
2 1000 gram charges to 2 1,600
Except Nickel Plate & Tubes
rings on Before pkg
100 mlg Barium Hydroxide
100 " Calcium "
mixed together in Each case —

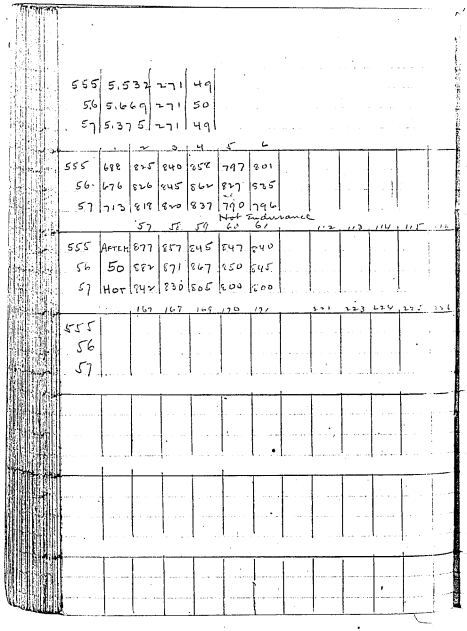
Wt 5.614
Cal 272
T 48

553 Dup of 552

Wt 5.530
Cal 271
T 48

554 Dup of 552

Wt 5.493
Cal 272
T 47



555	5.537	271	49	
56	5.669	271	50	
57	5.37	5.271	49	

		2	3	4	5	6	
555	688	835	840	858	797	801	
56	676	826	845	867	827	835	
57	713	818	840	837	790	796	
				Hot Endurance			
	57	58	59	60	61		
555	After	877	857	845	847	840	
56	50	887	871	867	850	845	
57	Hot	747	830	805	800	800	
	169	167	165	170	171		

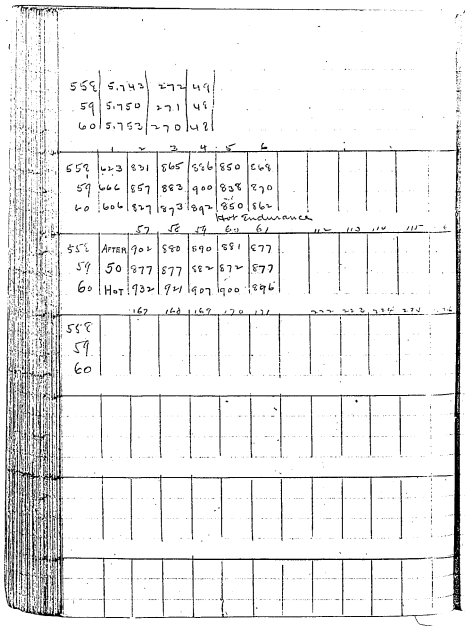
555	
56	
57	

555 Duplicate of 514
2 cool grams absorbed 2/7/20
Except 250 milligrams of Diacetyl precipitated cobaltinitrite — in each case — Cobalt plated tubes run on before pkg —

Wt 5.53~
Cal ~71
T 49

556 Dup of 555 —
Wt 5.669
Cal 271
T 50

557 Dup of 555 —
Wt 5.375
Cal 271
T 49



558	5.743	272	49	
59	5.750	271	48	
60	5.753	270	48	

		1	2	3	4	5	6
559		623	831	865	886	850	868
59		666	857	883	900	838	870
60		666	857	873	892	850	862
						Hot Endurance	

		57	58	59	60	61	112	113	114	115
558	After	902	880	890	881	877				
59		50	877	877	882	872	877			
60	Hot	932	911	907	900	896				

	167	168	169	170	171	222	223	224	225	226
558										
59										
60										

558 Duplicate of 514
21000 grain absorbed
=11630
Except Nickel plated tubes
range on before pkg
250 milg succinate prepp(d) containing hydrous

Lot 5.743
Cal 272
T 49

559 Dup of 558

Lot 5.750
Cal 271 Ring heated
T 48

560 Dup of 558

Lot 5.753
Cal 270
T 48

561	5.584	272	50	
62	5.627	271	48	
63	5.729	273	48	

	1	2	3	4	5	6
561	622	821	857	890	836	832
62	650	830	867	890	837	855
63	718	885	905	930	886	884

Hot Endurance

	57	58	59	60	61	112	113	114	115
561	After	905	895	888	877	885			
62	50	913	905	896	885	891			
63	Hot	920	920	917	912	912			

	167	165	169	170	171	223	224	225	227	226
561										
62										
63										

561 Duplicate of 514 21.675
2100k pressure cured
250 Milgrams
Except, ~~Chloride~~ Potassium in carb. coll. –
Cobalt-plated tubes rings on before pkg

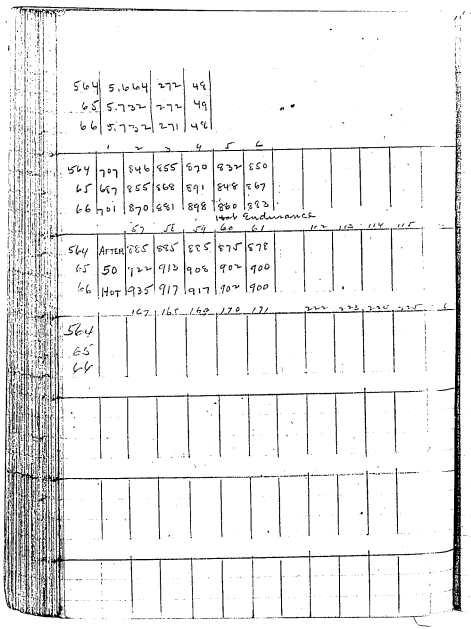
Lot 5.584
Cal 272
T 50

562 Dup of 561

Lot 5.627
Cal 271
T 48

563 Dup of 561

Lot 5.729
Cal 273
T 48



564	5.1664	272	48	
65	5.732	272	49	
66	5.732	271	48	

	1	2	3	4	5	6
564	709	846	855	870	837	850
65	667	855	868	891	848	867
66	701	870	881	898	860	883

Heat Endurance

	57	58	59	60	61	112	113	114	115	
564	After	885	895	885	875	878				
65	50	922	913	908	902	900				
66	Hot	935	917	917	902	900				

	167	165	168	170	171	222	223	224	225	5
564										
65										
66										

564 Duplicate 514
21000 gross aberdeto 21.650
Except Nickel plate & Cu Ba
rengo on 6 before plate
1250 milgrams Chloride of Potassium

Wf 5.664
Cal 272
T 48

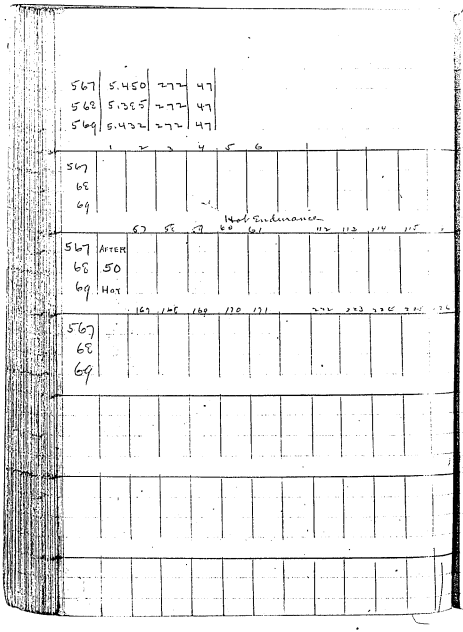
565 Dup of 564

Wf 5.732
Cal 272
T 49

566 Dup of 564

Wf 5.732
Cal 271
T 48

5.732
4.58.50



567 Duplicate of 514
21000 grams absorbed to 216000
Except 250 milligms Titanate of Potash
Cobalt plated tubes rings on Before
pkg —

Wt 5.450
Cal 272
T 47

568 Dup of 567

Wt 5.385
Cal 272
T 47

569 Dup of 567

Wt 5.432
Cal 272
T 47

Mrks 369 group

~~Silicate Sodium 2.50~~ Milligrammes par cc.

~~Aluminium 1.00~~

~~Copper Sulphate 2.50~~

~~Bismuth Nitrate 2.50~~

Hg. mercic Sol in KOH,

~~Manganese Protoxide~~

~~Ferrocyanide (Prussiate) KOH 2.50~~

~~Iron Chloride~~

~~Benzoin Isoprenic~~ 2.50

~~Lime~~

~~Sulphite Lime 2.50~~

Carbonate Lime 2.50

~~Chlorine gaseous 2.50~~

~~Chlorine Solution Chl Water 2.50~~

Titanate Potash 2.50

~~Carbonates~~ Gelatin 1.00 ~

(Albumen 2.50

Stearic acid) 2.50 ~